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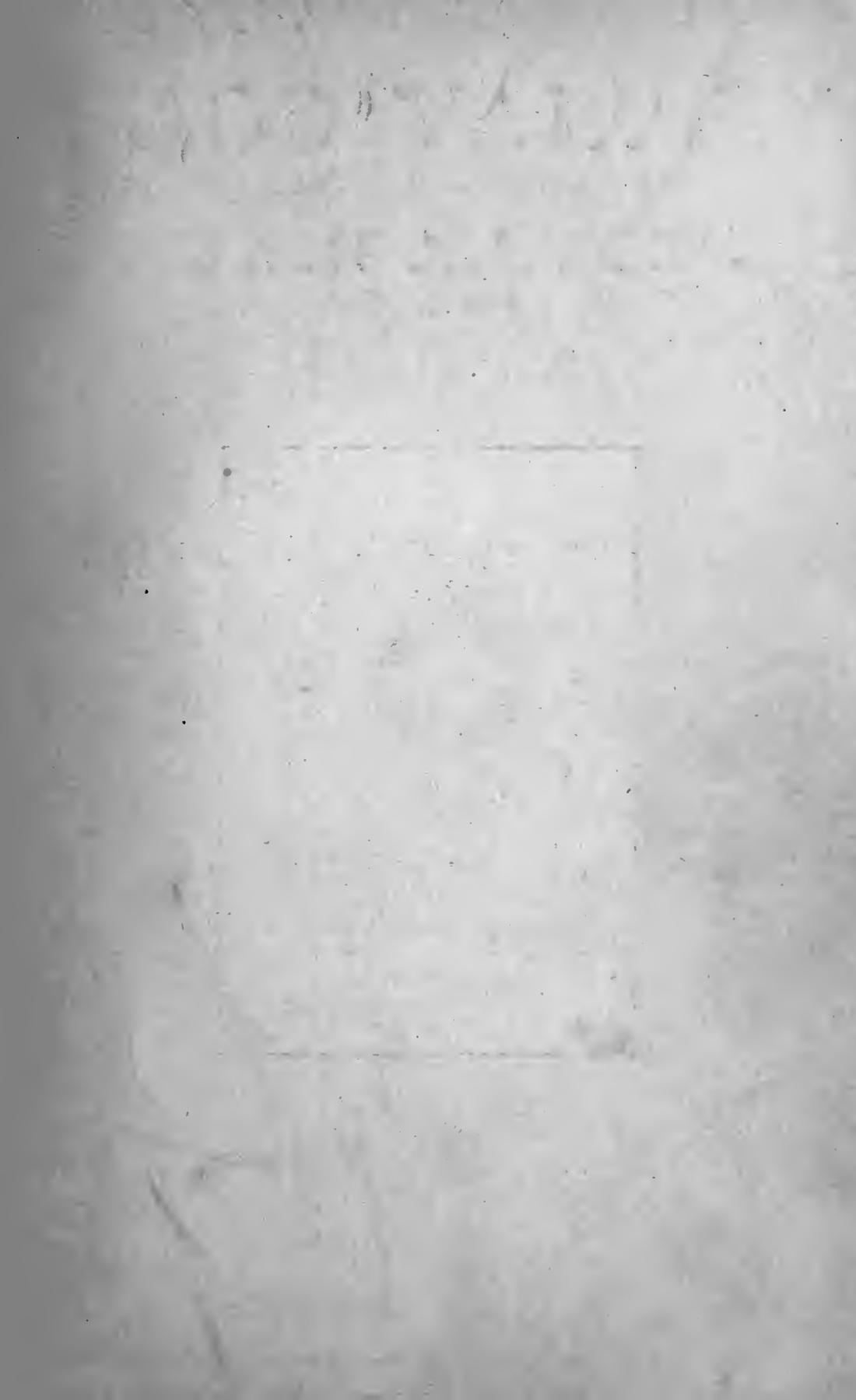


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# **FOOD VALUES**



# FOOD VALUES

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BY

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*u*  
INSTRUCTOR IN MEDICINE, HARVARD MEDICAL SCHOOL



NEW YORK AND LONDON  
D. APPLETON AND COMPANY

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## PREFACE

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THE numerous tables of chemical analysis of foods and of food values appearing during recent years have made possible a more precise qualitative and quantitative regulation of the diet for the sick. Such tables, however, are not readily accessible, or are arranged in such form as to be applied to practical dietetics only with considerable difficulty. The majority necessitate the actual weighing of the foods and often tedious calculations in order to determine the exact nutritive values; procedures which greatly detract from their practical usefulness. Furthermore the figures given are usually for raw food values which frequently differ considerably from those of cooked foods.

In the present volume I have attempted to bring together from various sources as exact information as possible regarding the composition and nutritive value of all common foods in a form so simple that it can be readily applied to the every day regulation of diets. The work has been prepared especially for the students in the Harvard Medical School.

It is obvious that many factors combine to make the calculations of the nutritive worth of cooked foods exceedingly difficult and in many instances the results given must be regarded as only approximate.

## PREFACE

No original chemical analyses have been made by the author but all calculations are based on actual weighings. It is not a treatise on dietetics and no attempt has been made to give special diets for particular diseases or conditions. In the following pages, however, some of the principles of dietetics which apply especially to the use of the tables are briefly discussed. Our knowledge of the relative digestibility of different foods is so incomplete that no discussion of the subject is given.

It has been impossible to give credit in all cases to the authors consulted. Information has been drawn largely from the numerous reports of investigations made under the direction of the United States Department of Agriculture, especially those of Atwater, Bryant, Langworthy, Grindley, Wood and Milner.

Grateful acknowledgment is made of the valuable advice and assistance given by Drs. H. F. Hewes and David L. Edsall in the preparation of these tables.

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# FOOD VALUES

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## INTRODUCTION

### CLASSIFICATION OF FOOD STUFFS

THE various food materials, although frequently classified as organic or inorganic, are more reasonably divided into (1) *nutritive* and (2) *non-nutritive constituents*. The former are chiefly organic, the latter largely inorganic substances.

Atwater and others group the nutritive constituents into four general classes, i. e.: (1) *protein*, (2) *fats*, (3) *carbohydrates*, and (4) *mineral matter or ash*. The non-nutritive constituents include *water*, *refuse* (bones of meat and fish, shells of shell-fish, stones of fruit, skins of fruits and vegetables, etc.), and the *salts* of salted meats and fish.

In the following tables the term "edible portion" (Atwater) is used to include the nutritive portion and water, i. e., flesh of meat and fish, white and yolk of egg, pulp of fruit, etc., while the term "as purchased" indicates the total edible portion plus the refuse.

*Protein*.—Protein as employed by Atwater is a comprehensive term comprising all nitrogenous substances whether of animal or vegetable origin except the nitrogenous fats. As distinguished from protein the proteids are definite chemical compounds such as the albumin of meat and the white of egg which form only a portion of

the general group of proteins. Hoppe-Seyler and Dreschel<sup>1</sup> classify the protein bodies as follows: (1) Simple Proteids (albumins, globulins, nucleoalbumins, albuminates, proteoses and peptones, coagulated proteids and histones), (2) Compound Proteids (hemoglobins, glucoproteids and nucleoproteids), (3) Albumoids or Albuminoids (keratins, elastin, collagen and reticulin).

*Carbohydrates.*—The carbohydrates embrace an unusually large number of compounds such as sugars, starch, gums and cellulose, and form the principal constituent of plants as do the proteids of meats. Though found chiefly in such foods as are derived from the vegetables, nuts, fruits and grains, they are also present in small amounts in milk, meat, and fish.

*Fats.*—This group is made to include the total ether extract of the dried substance, and comprises both plant and animal fat besides a variety of other substances, including neutral fat, fatty acids, lecithin, cholesterin, coloring matter, tannin, wax and ash residue. These last mentioned, however, are present in very minute traces and the heat of combustion of the total ether extract has been shown to be practically identical with that of pure fat. (Stohmann.<sup>2</sup>)

*Mineral Matter or Ash.*—A considerable number of inorganic elements (chlorine, sulphur, phosphorus, sodium, calcium, magnesium, iron, manganese, potassium and others) are contained in the food, to a small extent as organic compounds, but principally as salts (carbo-

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<sup>1</sup> Cited by Hammarsten, "A Text-Book of Physiological Chemistry," p. 36.

<sup>2</sup> Quoted by Schwenkenbecher, *Zeit. f. diet. u. physik. Terapie*, Bd. 4, 1900, s. 388.

nates, sulphates, phosphates, oxides, etc.). They are never oxidized in the system to furnish heat or energy, but are essential in tissue building.

*Water.*—The importance of water in the diet of man, though a non-nutrient, is attested by the fact that nearly two-thirds of the body weight is due to water.

### USES OF FOODS IN THE BODY

In general the function of food ingested is twofold, first, to build up or repair tissues, and second, through combustion to furnish energy either as heat or muscular work including the work of digestion. The degree to which the various food ingredients discussed above answers in these respects to the body needs is various. Protein foods, like lean meat and fish, egg albumen, casein of milk, wheat gluten, and the proteid portion of vegetables, are essentially the tissue builders but under some conditions, especially when the amount of fats and carbohydrates is insufficient, are utilized by the organism to provide energy. It is probable also that proteids may be changed to fat. The fats, both animal and vegetable, and the carbohydrates, very largely furnish the energy required. To a considerable extent the fats of the food may be stored up as body fat but only when the ingested food is more than adequate to meet the demands of the body for tissue building and energy. Likewise when taken in excess the carbohydrates may be transformed into fat and stored as adipose tissue. Neither can go to the building up of tissue yet they act as proteid spares and indirectly serve this purpose.

It will thus be readily seen that the functions of the

three kinds of nutrients in the body are to a certain extent interchangeable, and the purpose which each serves will depend largely on the quantity of the other two. In other words the degree to which the three types of food stuffs participate in the production of energy will depend on their relative proportion in the diet as much as on any preference on the part of the organism.

This fact is of the greatest importance in the regulation of the diet in certain diseases. Thus if we aim to increase the body weight in a given case it is as important to provide adequate amounts of fats and carbohydrates in order to spare the proteids which would otherwise to some degree be used to answer the needs for heat and energy, as to increase the nitrogenous foods.

As stated above, mineral matter does not contribute to the energy needs of the body yet is absolutely essential in the food, first, because it forms bone and other tissues, and second, because of its influence on general metabolism. It is generally agreed that, with the exception of sodium chloride, the average mixed diet comprises more than a sufficient quantity of mineral matter to supply the body needs.

It has been shown experimentally beyond a doubt, that alcohol in small quantities, like the fats and carbohydrates, is entirely oxidized in the body and the energy thus produced is utilized by the body largely as heat but also to some degree as muscular work. Alcohol must in consequence be considered with the foods. It differs from other foods in not being stored in the body as fat for future use. To some extent, at least, it undoubtedly acts in a manner analogous to the carbohydrates and fats in sparing the protein. The maximum action of this sort

probably takes place in those habitually addicted to its use. There is considerable experimental evidence to indicate that alcohol likewise spares the carbohydrates and even the fats. Under no conditions can it serve to repair or build tissue. Unlike other foods, alcohol, when taken into the body in large amounts, not only acts as a food but as a drug also. This action often outweighs its effects as a nutrient. Any food may, when taken in excess, act deleteriously, but these effects in the case of alcohol are proportionately greater because of its action as a drug.<sup>1</sup>

## METHODS OF CALCULATING FOOD VALUES

All foods possess potential or latent energy which with combustion becomes kinetic or actual. This holds true whether it is burned in a calorimeter or oxidized in the body. When oxidized in the body this energy appears both as heat and muscular power. Atwater has shown by calorimeter experiments that when the body is in a state of complete rest all the energy is represented by heat and the work of metabolism, whereas with activity a considerable portion appears as muscular work. In either case the total "exactly equals the latent energy of the material burned in the body." This energy of foods is known as the heat or fuel value and is expressed in terms of a heat unit or calorie. A *calorie* is the amount of heat necessary to raise one kilogram of water from 0° to 1° C. or 1 pound 4° F. This is sometimes spoken of as

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<sup>1</sup> For a full discussion of the action and nutritive value of alcohol, see Atwater, "Physiological Aspects of the Liquor Problem," vol. ii., 1903.

the "large calorie," the "small calorie" being 1/1000 of a large calorie, or the amount of heat necessary to raise one gram of water from 0° to 1° C. Stohmann <sup>1</sup> gives the following heat values for protein, fat and carbohydrate, when completely burned in the calorimeter:

1 gram protein.....	5,711 small calories.....	5.7 large calories.
1 " fat.....	9,365 " " ....	9.3 " "
1 " carbohydrate....	4,182 " " ....	4.1 " "

*Digestibility.*—If completely oxidized and transformed in the body the same figures would hold for these ingredients; but as is well known not all the food is utilized in the body, the unused portion appearing in the excreta. In order therefore to obtain the exact heat value of a given food when ingested, it is necessary to know not only its calorimeter value, but also the energy value of that portion which has escaped oxidation and appears in the feces and urine, the difference obviously being the so-called "available fuel value." Consequently it becomes of the first importance to determine what proportion of the food taken into the body is digested and absorbed, in other words, is available for body needs. This is designated as the "*coefficient of digestibility.*" (Atwater.) It may be defined as the total energy value of a given food less that of the unoxidized excreta.

The digestibility of nutrients differs slightly when given in a mixed diet from that of the same when ingested separately. Atwater's figures of digestibility <sup>2</sup>

<sup>1</sup> "Ueber den Wärmewerth der Bestantheile der Nahrungsmittel." *Zeit. f. Biologie*, Bd. 31.

<sup>2</sup> The term digestibility is used by Atwater to indicate the completeness of digestion, and not the ease of digestion as ordinarily employed.

for the average mixed diet are: protein 92 per cent, fats 95 per cent, and carbohydrates 97 per cent, those of animal origin being considerably higher than those of vegetable. Of the total food in a mixed diet 91 per cent is estimated to be entirely digested and transformed into energy. The coefficient of digestibility of alcohol is 98.

*Availability.*—A further consideration of very great moment in the calculation of food values is the completeness with which the available protein, fat and carbohydrate are burned in the body. Since the fats, carbohydrates and alcohol are almost completely oxidized, their available energy is represented by constants which are very close to those for the same oxidized outside the body. Not only is there a considerable loss in the amount of protein available for oxidation, as stated above, namely 8 per cent, but a considerable portion of the remainder escapes complete oxidation and appears in the form of the nitrogenous excreta in the urine (urea, etc.) Whereas the coefficient of digestibility of protein is 92, the coefficient of availability of energy is only 70. (Atwater.) The ultimate energy value developed by change and oxidation of foods in the organism is termed the "physiological heat of combustion."

From his own investigation and those of many others, Rubner<sup>1</sup> calculates this physiological calorie value as follows:

1 gram protein . . . . .	4.1 calories.
1 " fat . . . . .	9.3 "
1 " carbohydrate . . . . .	4.1 "

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<sup>1</sup> "Calorimetrische Untersuchungen." *Zeit. f. Biologie*, N.F., Bd. 3, 1885.

The physiological calorie value of alcohol is 7. More recently Atwater and Bryant<sup>1</sup> have revised these figures basing their conclusions on a large number of careful investigations. A summary of their results is given in the following table:<sup>2</sup>

	Heat of combustion per gram.	Coefficients of availability.		Fuel values.			
		Of material.	Of energy.	Referred to available material.		Referred to total material.	
				Per grm.	Per lb.	Per grm.	Per lb.
		Cal.	Per cent.	Cal.	Cal.	Cal.	Cal.
Protein.....	5.65	92	70	4.4	2,000	4.0	1,815
Fat.....	9.40	95	95	9.4	4,260	8.9	4,040
Carbohydrates ..	4.10	97	97	4.1	1,860	4.0	1,818
Alcohol.....	7.07	98	98	7.1	3,210	6.9	3,130

It will be seen that Atwater's figures corresponding to those of Rubner given above are:

1 gram protein.....	4	calories.
1 " fat.....	8.9	"
1 " carbohydrate.....	4	"
1 " alcohol.....	6.9	"

While more accurate than Rubner's figures, the latter have attained such general acceptance that practically all tables of food values available are based on these values and for the sake of uniformity it has seemed best

<sup>1</sup> "The Availability and Fuel Value of Food Materials." Report of the Storrs (Connecticut) Agricultural Station, 1889.

<sup>2</sup> "Physiological Aspects of the Liquor Problem," vol. ii., p. 281.

to use the same in the preparation of the following tables.

## THE FOOD REQUIREMENTS OF THE BODY IN HEALTH

In spite of numerous careful researches no precise general rules can be laid down regarding the food requirements which shall apply to all persons. The needs of the organism for nutriment both with relation to its kind and quality must depend on many factors. First of all it is evident that these needs bear a direct relationship to the size of the body, large individuals requiring more food than smaller ones. The average man in health and with moderate work is found to require roughly 40 calories per kilogram of weight. The extent of body surface likewise determines to some degree the amount of fuel needed inasmuch as the radiation of heat is relatively greater in those with proportionately large skin surface. The thinner the individual, the greater the relative skin surface and hence the greater the demands for food. A partial explanation is found here for the fact that thin people frequently consume more food than the obese. Added reasons for this difference are found in the sedentary habits of life so often characteristic of the obese, and in the lessened metabolism. Fat tissue as well as bone is virtually dead tissue when compared with muscle since it participates but little in the general processes of waste and repair. Whereas the average man at work requires somewhere between 30 and 60 calories per kilogram of weight to maintain health and strength, the very fat have been observed to preserve

their weight and vigor on from 26 to 36 calories per kilo of weight.

Children have relatively more skin surface than adults, and the calls for food are correspondingly increased. Young cells furthermore oxidize a greater quantity of food. Still another important reason is that the young organism needs food for the growth of new tissue as well.

An exactly opposite condition exists in the aged. There is lessened body activity, a diminished vitality in the body cells, and commonly a smaller degree of heat radiation. In consequence the food consumption is decreased beyond the period of maximum vigor and in extreme old age surprisingly little is required to meet the demands of the organism. The young infant utilizes nearly 100 calories per kilogram, the aged scarcely more than one-quarter to one-third as much.

It is estimated that on the average women take barely four-fifths as much food as men, due largely to the smaller size, the greater percentage of body fat, and the less active life.

Climate and seasons exert some influence, though by reason of the methods of dress among civilized people, which protects the body from excessive loss of heat by radiation, far less than would at first be supposed. To some extent the demands of the system in cold climates increase the fuel needs of the body.

Marked individual differences in the amount of food digested and assimilated, apart from such differences as are due to size, age, mode of life, shape of body, and similar factors, are commonly observed. Not only is this individual variation seen with reference to the amount

of food required, but also in the proportions of the different ingredients. In both health and disease, one likewise frequently sees that a particular kind of food does not agree with a given individual. These individual peculiarities are important considerations in the regulation of the diet, especially in conditions of ill-health.

The one factor of probably more importance than all the above combined is muscular work. Langworthy<sup>1</sup> summarizes the results of statistical and experimental studies with regard to the food requirements of man under varying conditions of work as follows:

Man without muscular work . . . . .	2,450	calories.
"    with light muscular work (sedentary) . . . . .	2,700	"
"    "    "    to moderate muscular work . . . . .	3,050	"
"    "    moderate muscular work . . . . .	3,400	"
"    "    very hard muscular work . . . . .	5,500	"

In the case of Maine lumbermen working during the winter months the food consumed in a single day in some instances was found to be capable of yielding over 8,000 calories. It seems to be generally agreed that a man at moderately hard work requires somewhat more than 3,000 calories daily.

Atwater has shown by calorimeter experiments that in the case of the man performing work, as contrasted with the man at rest, only about 20 per cent of the additional food taken appears as the energy equivalent of work, that is, for every 20 calories developed and applied as work, 80 calories are lost in the body as heat and "internal work."

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<sup>1</sup> United States Department of Agriculture, Office of Experiment Station, *Circular No. 46, 1906.*

While it is fairly generally conceded that the average man at work requires approximately 3,000 calories daily, there is a wide divergence of opinion as to the relative amounts of the protein, carbohydrates and fats best suited to furnish these needs. Unfortunately physiological experiments are frequently not in accord with the results of actual studies of the diet taken by individuals of different races and under varying conditions. While the question cannot at present be finally settled, the proportions of nutrients taken by the average person is probably the safest guard. These figures are, roughly, 150 grams fat, 100 grams protein, and 350 grams carbohydrates per diem.

The most important question is as to the quantity of protein best suited to the needs of the average individual. In spite of very numerous experiments by many eminent physiologists as well as careful studies regarding the amount consumed by various races and classes, it still remains an open question. The work of Chittenden and others proves that health may be maintained under the ordinary conditions of life for a long period on a daily ingestion of proteids even as low as 50 grams daily. It has not been shown, however, that such a low proteid content is an advantage or if continued indefinitely may not work injuriously. A large excess of protein taken with a diet rich in fats and carbohydrates, especially with hard muscular work, is, as a rule, well tolerated, observations having been made frequently where more than 200 grams of protein were taken daily and well tolerated. Without an ample supply of fats and carbohydrates, however, an excess of protein leads to severe digestive disturbances and must be regarded as

distinctly harmful. The form in which the protein is ingested is also important. At least one-half should be in the form of vegetable protein except in the case of persons doing very severe work when a larger proportion of animal protein may be allowed.

Granting that 100 grams of protein is a fair average for a diet yielding 3,000 calories, the proportion of the fats and carbohydrates best suited to the body needs is the next consideration. The ratio of these two ingredients in the diet of different individuals varies within very wide limits as shown by many dietary studies. Although energy derived from the carbohydrates seems to spare the proteids to a slightly greater degree than that from the fats, they may for all practical purposes be considered of equal importance as proteid spares. The vital question appears to be not as to the ratio of the two, but rather that the necessary caloric value of the diet be maintained. When additional food is required because of hard muscular work there is good reason for the opinion that the supplementary calories should be supplied largely by carbohydrates and fats.

The influence of mental work on the fuel needs of the body has not been so accurately determined as in the case of muscular work. One important fact, however, has been established by the calorimeter experiments of Atwater,<sup>1</sup> namely that the body waste is not increased by brain activity. There seems to be no evidence for supposing that any particular kind of food is indicated in the case of brain workers, or that the calorific needs are greatly or even to any extent increased. Overeating

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<sup>1</sup> United States Department of Agriculture, Office of Experiment Station, *Bulletin* No. 44, 1897.

is detrimental to hard brain work for the reason that under such conditions excessive work is put on the digestive organs necessitating an abundant blood supply to the abdominal organs which undoubtedly interferes to a considerable extent with the supply needed by the brain. Intellectual workers are usually of sedentary habits and require much less food in general and a smaller percentage of fats and carbohydrates than those doing manual labor. In a word, the food required by this class is relatively small and should be of such a nature as to put as little burden as possible on the digestive organs.

### THE BODY'S RESERVE

It is one of nature's provisions that the body should to a considerable though varying degree act as a storehouse of fuel. On a sufficient diet the body stores up in the form of fat tissue a greater or smaller reserve which during a period of insufficient food or actual starvation can for a remarkably long period sustain life. At first only adipose tissue is oxidized, but later even the nitrogenous tissues may also be utilized. Death usually occurs after the reduction of from one-third to one-half the body weight. Underfeeding, especially an insufficiency of nitrogenous foods, inevitably leads to a lessening of body resistance, and finally to physical deterioration as evidenced by abundant examples too familiar to be enumerated.

Continued overfeeding, if extreme, brings in time a chain of evil consequences of nearly equal importance. The proper diet is probably one moderately in excess of that absolutely necessary to answer the demands of the body for tissue repair and energy as it is desirable to

have a reserve of fuel in the body. One of the first results of excessive food ingestion in many cases, though by no means all, is an abnormal increase in the body weight due to the accumulation of adipose tissue. The principal ill effects are those consequent on the relatively great amount of additional work thus put on the system in disposing of the extra fuel. If for only a short time, the effects are seldom more severe than moderate disturbances in the functions of the gastro-intestinal tract. In the case of habitual overalimentation, grave disorders of metabolism or even degenerative changes take place in the body tissues especially in the internal organs and arteries.

“For people in good health and with good digestion there are two important rules to be observed in the regulation of the diet. The first is to choose the things which ‘agree’ with them, and to avoid those which they cannot digest and assimilate without harm. The second is to use such kinds and amounts of food as will supply all the nutrients the body needs and at the same time avoid burdening it with superfluous material to be disposed of at the cost of health and strength.

“For guidance in this selection, nature provides us with instinct, taste and experience. Physiological chemistry adds to these the knowledge—still new and far from adequate—of the composition of food and the laws of nutrition. In our actual practice of eating we are apt to be influenced too much by taste—that is, by the dictates of the palate; we are prone to let natural instinct be overruled by acquired appetite, and we neglect the teachings of experience. We need to observe our diet and its effects more carefully and to regulate appetite by reason. In doing this we may be greatly aided by the

knowledge of what our food contains and how it serves its purpose in nutrition." (Atwater.)

### COOKING OF FOODS

The nutritive value of foods is very definitely influenced by cooking. As a rule they are made more digestible for the reason that their structure is so altered as to render them much more easily chewed and more accessible to the digestive juices. Their composition is also often considerably changed, depending on the method of cooking. During this process certain flavors are developed which give them a more pleasing taste and so directly assist digestion through stimulation of the digestive functions. Bacteria and parasites are killed by most forms of cooking.

The above applies especially to the cooking of meats, although by some methods they suffer a very significant loss in nutrients. Meats lose weight in cooking largely in consequence of the loss of water, and to a variable extent of fat.

The following table compiled from Schwenkenbecher<sup>1</sup> illustrates in a general way these losses in weight:

100 grams raw, lean meat.	Boiled. Grams.	Baked.	
		Rare. Grams.	Well done. Grams.
Beef.....	58	82	62
Veal.....	72	78	61
Mutton.....	65	85	70
Pork.....	63	78	57
Fowl.....	70	76	..

<sup>1</sup> "Die Nährwerthberechnung tischfertiger Speisen." *Zeit. f. diät. u. physik. Therapie*, Bd. 4, H. 5, 1900.

The changes taking place in meats as the result of cooking have been made the subject of very careful experimental studies by Grindley and Mojonnier<sup>1</sup> and their conclusions are briefly as follows: When meats are boiled from 3.3 to 12.6 per cent of the protein, 0.6 to 37 per cent of the fat, and 20 to 67 per cent of the salts were found in the broth. When roasted, 0.3 to 4.6 per cent of protein, 4.5 to 57.5 per cent of the fat and 2.5 to 57.2 per cent of the mineral matter were found in the drippings of the meat. If the broth in the former and the drippings in the latter be used there is obviously only an insignificant diminution in food value. To a certain extent the losses vary directly with the length of time of cooking and inversely with the size of the piece of meat. Different cuts of the same kind of meat vary greatly in the amount and nature of the losses. Schwenkenbecher concludes from the study of the results of numerous investigations that 100 grams of the muscle portion of the common meats when boiled yields roughly from 160 to 180 calories, when roasted, rare, about 130 calories, well done, 150 to 230 calories. The edible portion of lean fish boiled furnishes approximately 80—100 calories per 100 grams. Pickling and smoking alters but very slightly either the composition or nutritive value of meat and fish. On the whole the meats are rendered more palatable by cooking but slightly less digestible and sometimes less rich in nutrients.

In vegetables as in the case of meats the flavors are

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<sup>1</sup> "Experiment on Losses in Cooking Meat," United States Department of Agriculture, Office of Experiment Station, *Bulletin No. 141.*

produced, the structures altered, and the proteids coagulated. The most important changes are in the starch granules, the cell walls of which are ruptured and the starch made more soluble. While a proper degree of cooking renders the vegetables more palatable and digestible, excessive cooking produces changes in them which make the vegetables unpalatable and indigestible.

Snyder, Frisby and Bryant,<sup>1</sup> investigated the effects of boiling on the composition of vegetables using potatoes, carrots and cabbage as representatives of the three groups, tubers, roots, and pot herbs. They found a considerable though variable loss in nutritive constituents depending on the methods employed. In the case of the potatoes, the greatest loss took place when they were peeled and then soaked in cold water before boiling, namely 46 to 58 per cent of the nitrogenous matter and 38 per cent of the mineral matter. When put immediately into boiling water, the loss in mineral matter remained the same but the loss in nitrogenous matter was only one half as great. If boiled unpeeled, the losses were insignificant. As ordinarily cooked carrots were found to lose about 40 per cent of the total nitrogen and 26 per cent of the total sugar, or approximately one quarter of the nutritive value. Cabbage when boiled in lime water lost about one-half of the mineral matter and one-third of the carbohydrates and nitrogenous matter.

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<sup>1</sup> "Losses in Boiling Vegetables and the Composition and Digestibility of Potatoes and Eggs," United States Department of Agriculture, Office of Experiment Stations, *Bulletin* No. 43.

This loss can be largely prevented if the water in which the cabbage is cooked be used.

### **METHOD OF CALCULATING FOOD VALUES**

In the ordinary tables of food analysis such as those of Atwater and Bryant, the chemical composition of foods is given in percentages by weight of protein, fats and carbohydrates, and the total caloric value per pound. It is therefore evident that in order to determine the value of a given diet each article of food must be separately weighed and the weight of the three food ingredients calculated from the table of percentages. For example, Atwater's table gives the composition of home-made white bread as 9.1 per cent protein, 1.6 per cent fat and 53.3 per cent carbohydrates. Now if one slice of bread weighs 37 grams, the actual weight of the protein, fat and carbohydrates is 3.37, 0.59 and 19.72 respectively. The number of calories represented in each is then ascertained by multiplying the first and third figures by 4.1, and the second by 9.3 (in each case by the number of calories per gram) which gives for protein 13.8, for fats 5.5, and for carbohydrates 80.9 calories, or a total of 100.2 calories.

I have attempted to simplify the calculations of diet by arranging a table of American foods on the basis of the "average helping." To this end the common measure of the serving is given as well as the actual weight in grams. It is believed that in this manner the value of the diet can be estimated not only very easily but with sufficient accuracy for all practical purposes. The actual weight of the protein, fats and carbohydrates in the

average helping is also given, and the fuel value in calories for each. The student is thus enabled to make direct comparisons of different articles of food according to the calories represented by each ingredient as well as the total number of calories. The calculation of the total fats, carbohydrates and proteids taken at a single meal or during the twenty-four hours is made very easy.

When food is ingested in amounts other than the average helping its value can be reckoned from its weight and the values for 100 grams given in the last column.<sup>1</sup> Frequently in such cases the quantity eaten is a definite fraction of the "average helping" given in the table and its value can be more readily obtained by dividing all the values given by that fraction. For example, if 1 heaping tablespoonful of apple sauce instead of 3 heaping tablespoonsful, as given in the table, be served, the value can be determined by dividing all the values in the different columns by three.

Suppose it is desired to figure the value of a given meal composed as follows: chicken soup, 4 oz.; lean roast beef, 1 slice; boiled potato, 1 medium sized; string beans, 2 heaping tablespoonsful; white bread, 1 slice; butter, 1 small ball; glass milk; chocolate pudding, 2 heaping tablespoonsful, with whipped cream, 1 heaping tablespoon. Reference to Table II gives the following:

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<sup>1</sup> A very convenient table scale for weighing foods is manufactured by John Chatillon & Sons, New York.

Food.	Protein.		Fats.		Carbo-hydrates.		Total Cal.
	Grams	Cal.	Grams	Cal.	Grams	Cal.	
Soup.....	12.60	51.7	0.96	8.9	2.88	11.8	72
Roast beef.....	23.33	95.7	1.66	15.4	.....	.....	111
Boiled potato.....	3.75	15.4	.15	1.4	31.35	128.5	145
String beans.....	.48	2.0	.66	6.1	1.14	4.7	13
White bread.....	3.37	13.8	.59	5.5	19.72	80.9	100
Butter.....	.15	.6	12.75	118.6	.....	.....	119
Milk.....	7.26	29.8	8.80	81.8	11.00	45.1	157
Chocolate pudding.....	4.99	20.5	7.90	73.5	27.83	114.1	208
Whipped cream.....	1.11	4.6	7.72	71.8	1.06	4.3	81
Totals.....	57.04	234.1	41.19	383.0	94.98	389.4	1,006

The table shows that we have a total of 57.04 grams protein, 41.19 grams fat, and 94.98 grams carbohydrates yielding respectively 234.1, 383.0 and 389.4 calories or a total of 1,006 calories. When only the total fuel value is desired it will readily be seen to be a very simple matter of addition to ascertain the desired figures.

On the other hand, the arrangement of weights and values in Table II facilitates the choice of a menu for special diseases as diabetes or nephritis.

The use of Table I affords a ready means of changing from one system of weights or measures to another. This is often necessary in food determinations.

Table IV is abstracted from Atwater and Bryant<sup>1</sup> for the purpose of furnishing the percentage composition of the more common American foods for those wishing to know the exact value of raw food.

<sup>1</sup> "The Chemical Composition of American Food Materials," United States Department of Agriculture, Office of Experiment Station, *Bulletin* No. 28, 1906.



## T A B L E S

TABLE EQUIVALENTS (approximate)

1 teaspoon	fluid =	5	c.c. or	$\frac{1}{6}$	fluid ounce.
1 dessertspoon	" =	10	" "	$\frac{1}{3}$	" "
1 tablespoon	" =	15	" "	$\frac{1}{2}$	" "
1 ordinary cup	" =	250	" "	8	" "
1 tumbler or glass	" =	250	" "	8	" "
1 cordial glass	" =	20	" "	$\frac{2}{3}$	" "
1 sherry glass	" =	30	" "	1	" "
1 cocktail glass	" =	75	" "	$2\frac{1}{2}$	" "
1 claret glass	" =	120	" "	4	" "
1 champagne glass	" =	135	" "	$4\frac{1}{2}$	" "

ABBREVIATIONS

- a. = average.
- a. h. = average helping.
- c. = cup.
- d. = diameter.
- dsp. = dessertspoon.
- h. = heaping.
- m. = medium.
- sq. = square.
- tbsp. = tablespoon.
- tsp. = teaspoon.

TABLE I.  
EQUIVALENTS OF WEIGHTS AND MEASURES.

*Metric, Avoirdupois and Apothecaries.*

(From the "Pharmacopeia of the United States of America.")

Grains.	Weights.			Metric Weights and Measures.			Measures.		
	Oz.	Apothecaries grains.	Ib. oz.	Avoirdupois grains.	Gm. or C.C.	ounces.	Fluid minims.	Fluid ounces and fractions.	
15432.4	32	72.4	2	3	119.9	<b>1000</b>	33	390.06	33.814
7000.0	14	280.0	<b>1</b>	3	230.7	453.592	15	162.1	15.338
1543.2	3	103.2	..	1	42.5	<b>100</b>	3	183.1	3.382
480.0	<b>1</b>	..	..	1	18.89	31.1035	1	24.8	1.052
456.392	..	..	..	<b>1</b>	..	29.5737	<b>1</b>	..	<b>1</b>
437.5	..	..	..	..	..	28.350	..	460.1308	0.959
15.4324	..	..	..	..	..	<b>1</b>	..	16.23	0.0338
<b>1</b>	..	..	..	..	..	..	..	1.0517	0.0022
0.9508	..	..	..	..	..	0.06479	..	..	0.0021
						0.06161	<b>1</b>	..	..

TABLE II.  
PREPARED FOODS—EDIBLE PORTION.\*

(The small numerals in the first column refer to the list of references on page 57.)

Food Stuffs.	Portion.	Quantity.	Weight.	Water.	Protein.		Fats.	Carbo-hydrates.		Calories per 100 Grams.
					Grams.	Grams.		Grams.	Calories.	
<b>1. MEATS.</b>										
<i>Beef:</i>										
Beef juice.....	a. h.	4 oz.	120	111.60	5.88	24.1	0.72	6.7	...	25
Corned beef, canned.....	a. h.	1 slice.	50	25.90	13.15	53.9	9.35	87.0	...	141
Corned beef hash.....	a. h.	2 h. tbsp.	100	80.30	6.00	24.6	1.90	17.7	9.40	282
Roast.....	a. h.	1 slice.	100	48.20	22.30	91.4	28.60	266.0	38.5	81
Roast, very lean?.....	a. h.	1 "	100	73.71	23.33	95.7	1.66	15.4	...	357
Scraped (round), approximate.....	a. h.	4-in. pat.	100	67.80	20.90	85.7	10.60	98.6	...	111
										111
										184

\* In this table the figures given are for the edible portion in every case unless otherwise specified. So far as possible the values of the various prepared dishes have been computed from Atwater's chemical analyses in order that the table may be as uniform as possible. When the authority is not indicated, therefore, it is understood that the figures were taken from this source. The recipes in the case of made dishes, like puddings, sauces, etc., have been taken from many sources, but chiefly from Sachse: "How to Cook for the Sick and Convalescent." In a given group of foods as roast meats and soups, the quantity served has been somewhat arbitrarily made the same, as in this way the relative values are best indicated. The fractions in the weights of the average serving have uniformly been disregarded, as also in the case of the total calories. When the ingredients are stated, as in

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight. Grams.	Water. Grams.	Protein. Grams.	Fats. Grams.	Carbo- hydrates. Grams.	Total Calories. Calories per 100 Grams.
<i>Beef—Continued.</i>								
Steak, round, fat removed.	a. h.	1 slice.	100	63.00	27.60	113.2	7.70	71.6
		“	100	54.80	23.50	96.4	20.40	189.7
Steak, tenderloin	a. h.	“	80	45.95	32.00	131.2	0.45	4.2
Sweetbread <sup>2</sup>	a. h.	“	25	12.83	4.88	20.0	5.80	53.9
Tongue, canned	a. h.	“						
<i>Chicken:</i>								
Capon	a. h.	1 slice.	100	59.90	27.00	110.7	11.50	107.0
		2 h. tbsp.	125	72.81	16.26	66.7	12.62	117.4
Creamed on toast <sup>2</sup>	a. h.	1 slice.	100	67.50	17.60	72.2	11.50	107.0
Fricasseed	a. h.	“	100	60.30	32.10	131.6	4.40	40.9
Roast <sup>2</sup>	a. h.	“						
<i>Lamb:</i>								
Chop with bone	a. h.	1 chop.	100	47.60	21.70	89.0	29.90	278.1
	a. h.	1 slice.	75	50.33	14.78	60.6	9.53	88.6
Roast	“	“						

the case of puddings and sauces, only the total weights and values are given, but these can be readily calculated separately if desired by reference to these ingredients in other parts of the table or in Table IV.

The proportion of water in a considerable number of cases is only approximate, being reckoned as the difference between the total weight and the total of the protein, carbohydrates, fats and ash.

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight. Grams.	Water.	Protein. Grams.	Fats. Grams.	Carbo- hydrates. Grams.	Calories per 100 Grams.	
								Total Calories.	Calories per Gram.
<i>Mutton:</i>									
Boiled, lean <sup>9</sup> .....	a. h.	1 slice.	75	47.61	23.18	95.0	3.38	31.4	126
Chop, lean <sup>9</sup> .....	a. h.	1 chop.	100	71.80	22.60	92.7	4.50	41.9	135
Roast leg.....	a. h.	1 slice.	75	38.18	18.75	76.9	16.95	157.6	234
<i>Pork:</i>									
Bacon, smoked, un- cooked.....	a. h.	1 slice.	30	6.06	3.15	12.9	19.44	180.8	194
Chop <sup>9</sup> .....	a. h.	1 chop.	70	47.18	17.92	73.5	4.20	39.1	113
Ham, smoked, boiled, as purchased.....	a. h.	1 slice.	33	0.69	7.29	29.9	6.80	63.2	93
Ham, smoked, fried.....	a. h.	1 “	35	12.81	7.77	31.9	11.62	108.1	140
Roast <sup>2</sup> .....	a. h.	1 “	100	60.68	28.42	116.5	10.00	93.0	210
Sausage, uncooked.....	a. h.	1 sausage.	35	13.93	4.55	18.7	15.47	143.9	0.39
<i>Turkey:</i>									
Roast.....	a. h.	1 slice.	100	52.00	27.80	114.0	18.40	171.1	285
<i>Veal:</i>									
Calf's-foot jelly.....	a. h.	1 h. tbsp.	50	38.80	2.15	8.8	1.14	10.6	8.70
Cutlet <sup>2</sup> .....	a. h.	1 cutlet.	80	55.16	22.82	93.6	1.00	9.3	10.4
Roast <sup>2</sup> .....	a. h.	1 slice.	75	51.77	21.33	87.5	1.00	9.3	9.7

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight.	Water.	Protein.	Fats.	Carbo-hydrates.	100 Grams.		
								Grams.	Calor-ies.	
2. Fish.*										
Bluefish.	a. h.	...	100	68.20	25.90	106.2	4.50	41.9	...	148
Cod <sup>12</sup> .	a. h.	...	100	76.32	21.68	88.9	.27	2.5	1.58	6.5
Haddock <sup>12</sup> .	a. h.	...	100	72.37	21.98	90.1	.36	3.3	3.63	14.9
Halibut <sup>12</sup> .	a. h.	...	100	74.46	20.35	83.4	4.04	37.6	...	108
Mackerel <sup>12</sup> .	a. h.	...	70	51.19	11.73	48.1	4.84	45.0	2.62	10.7
Salmon <sup>12</sup> .	a. h.	...	100	65.32	19.65	80.6	10.21	95.0	5.36	22.0
Sardines, canned.	1 fish.	10	5.23	2.30	9.4	1.97	18.3	...	...	198
Smelts <sup>12</sup> .	“	1	14	11.30	2.23	9.1	.26	2.4	.06	28
Spanish mackerel, broiled.	a. h.	...	100	63.50	21.80	89.4	5.90	54.9	...	28
Sturgeon, Russian caviare.	a. h.	1 h. tsp.	10	3.81	3.00	12.3	1.97	18.3	.76	12
Trout, brook <sup>12</sup> .	a. h.	...	50	36.79	10.57	43.3	1.17	10.9	.62	57
<i>Shellfish</i>										
Clams, long.	a. h.	6 clams.	150	128.70	12.90	52.9	1.5	14.0	3.00	12.3
Clams, round.	a. h.	6 “	100	86.20	6.50	26.7	.4	3.7	4.20	17.2

\* When not otherwise indicated, the method of cooking is by boiling. Many of the cooked fishes are usually served with a sauce of some kind, but in no instance is the food value of the sauce included unless so specified. This can be easily computed by reference to the section on condiments and sauces given later in the table, and added if desired.

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight.	Water.	Protein.		Fats.		Carbo-hydrates.		Calories.	Calories per 100 Grams.
					Grams.	Grams.	Calor-ies.	Grams.	Calor-ies.	Grams.		
<b>Shellfish—Continued.</b>												
Crabs, hard shelled, as purchased.....	a. h.	1 crab.	245	89.92	19.36	79.4	2.21	20.6	1.47	6.0	106	91
Lobster.....	a. h.	105	83.16	17.22	70.6	1.89	17.6	.42	1.7	90	86	
Oysters.....	a. h.	85	73.86	5.27	21.6	1.02	9.5	3.15	12.9	44	52	
Oysters, creamed, on toast.....	a. h.	6 oysters on 1 slice toast.	205	148.12	-12.57	51.5	16.13	150.0	25.62	105.0	307	150
Oyster stew.....	a. h.	4 oz.	124	95.00	6.07	24.9	11.06	102.9	10.53	43.2	171	138
Scalloped oysters.....	a. h.	6 large oysters.	138	97.40	8.06	33.0	18.58	172.8	11.98	49.1	255	185
Scallops, fried.....	a. h.	3 h. tbsp.	110	154.38	28.20	115.6	1.75	17.3	6.02	24.7	158	144
<b>3. SOUPS.</b>												
Bean, home made.....	a. h.	4 oz.	120	101.16	3.84	15.7	1.68	15.6	11.28	46.2	78	65
Beef, home made.....	a. h.	4 "	120	111.48	5.28	21.6	.48	4.5	1.32	5.4	32	26
Bouillon, canned.....	a. h.	4 "	120	115.92	2.64	10.8	.12	1.1	.24	1.0	13	11
Chicken, home made.....	a. h.	4 "	120	101.16	12.60	51.7	.96	8.9	2.88	11.8	72	61
Chicken gumbo, canned.....	a. h.	4 "	120	107.04	4.56	18.7	1.08	10.0	5.64	23.1	52	43
Clam chowder, home made.....	a. h.	4 "	120	106.44	2.16	8.8	.96	8.9	8.04	33.0	51	43
Consommé, canned.....	a. h.	4 "	120	115.20	3.00	12.3	...	...	.48	2.0	14	12

TABLE II.—*Continued.*

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight.	Water.	Grams.	Protein.	Fats.	Carbo-hydrates.	Calories per 100 Grams.	
									Calories.	Total Calories.
Cream:										
“Average” <sup>10</sup>	a. h.	1 tbsp.	20	13.28	.74	3.0	5.14	47.8	0.71	2.9
“Heavy” <sup>7</sup>	a. h.	1 “	20	11.66	.43	1.8	7.24	67.4	.58	2.4
“Thick” <sup>8</sup>	a. h.	1 “	20	7.87	.31	1.3	11.22	104.3	.46	1.9
Whipped <sup>10</sup>	a. h.	1 h. tbsp.	30	17.9	1.11	4.6	7.72	71.8	1.06	4.3
Cheese:										
American, pale	a. h.	1 cu. in.	20	6.32	5.70	23.6	7.18	66.7	.06	.2
Camembert <sup>4</sup>	a. h.	1 h. tsp.	20	9.72	4.20	17.2	4.34	40.4	...	...
Cheddar	a. h.	1 “	20	5.48	5.54	23.7	7.36	67.5	.82	3.4
Cheshire	a. h.	1 “	20	7.42	5.38	22.1	6.14	57.1	.18	.7
Dutch	a. h.	2 scoops.	20	7.04	7.42	30.4	3.54	32.9	...	...
Fromage de Brie	a. h.	1 cu. in.	20	12.04	3.18	13.0	4.20	39.1	.28	1.2
Full cream	a. h.	1 “	20	6.84	5.18	21.2	6.74	62.7	.48	2.0
Limburger	a. h.	1 “	20	8.42	4.60	18.9	5.88	54.7	.08	.3
Neuchatel	a. h.	1 “	20	10.00	3.74	15.3	5.48	51.0	.30	1.2
Pineapple	a. h.	2 scoops.	20	4.60	5.98	24.5	7.78	72.4	.52	2.1
Roquefort	a. h.	1 cu. in.	20	7.86	4.52	18.5	5.90	54.9	.36	1.5
Stilton <sup>4</sup>	a. h.	2 scoops.	20	5.52	4.78	19.6	7.78	72.4	...	...
Swiss	a. h.	1 slice.	20	6.28	5.52	22.6	6.98	64.9	.26	1.1
Koumiss	a. h.	wineglass.	130	116.09	3.64	14.9	2.73	25.4	7.02	28.7

TABLE II.—*Continued.*

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight. Grams.	Water. Grams.	Protein. Grams.	Fats. Grams.	Carbo- hydrates. Grams.	Calor- ies.	Total Calories.	Calo- ries per 100 Grams.
5. VEGETABLES.										
Artichokes, French <sup>4</sup> .....	a. h.	1 artichoke.	360	329.80	6.48	26.6	.29	2.7	16.56	67.9
Asparagus, canned.....	a. h.	.....	125	118.00	1.88	7.7	.13	1.2	3.50	14.4
Beans:										
Baked, home made.....	a. h.	3 h. tbsp.	150	91.17	10.83	44.4	12.76	118.7	32.84	134.6
Baked, canned.....	a. h.	3 " "	115	79.24	7.94	32.6	2.88	26.8	22.54	92.4
Butter <sup>5</sup> .....	a. h.	4 "	80	62.78	3.78	15.5	.24	2.2	11.60	47.6
Lima <sup>5</sup> .....	a. h.	2 "	80	48.10	6.40	26.2	.54	5.0	23.60	96.8
Red kidney, canned.....	a. h.	2 "	70	50.89	4.90	20.1	.14	1.3	12.95	53.1
String.....	a. h.	2 "	60	57.18	.48	2.0	.66	6.1	1.14	4.7
Beets.....	a. h.	2 "	70	62.02	1.61	6.6	.07	.7	.5.18	21.2
Beet greens.....	a. h.	2 "	100	89.50	2.20	9.0	3.40	31.6	3.20	13.1
Cabbage <sup>4</sup> .....	a. h.	3 "	100	97.40	.60	2.5	.10	.9	.40	1.6
Carrots <sup>4</sup> .....	a. h.	3 "	100	93.40	.53	2.2	.17	1.6	3.39	13.9
Cauliflower <sup>12</sup> .....	a. h.	2 "	120	117.48	1.08	4.4	.12	1.1	.48	2.0
Celery, creamed <sup>4</sup> .....	a. h.	3 "	90	78.90	1.42	5.8	4.98	46.3	3.46	14.2
Celery, uncooked.....	a. h.	3 small stalks.	55	41.60	.50	2.1	.05	.5	1.43	5.9
Corn, canned.....	a. h.	2 h. tbsp.	100	76.10	2.80	11.5	1.20	11.2	19.00	77.9
Corn, green <sup>5</sup> .....	a. h.	1 ear.	100	76.25	3.07	12.6	1.10	10.2	18.78	77.0
Cucumber, uncooked.....	a. h.	8 thin slices.	50	47.70	.40	1.6	.10	.9	1.55	6.4
Dandelion greens <sup>5</sup> .....	a. h.	2 h. tbsp.	100	81.40	2.39	9.8	1.01	9.4	10.67	43.8

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight. Grams.	Water.	Protein. Grams.	Fats. Grams.	Carbo- hydrates. Grams.	Calories per 100 Grams.	
								Total Calories.	Calories.
Mushrooms, broiled.....	a. h.	2 large on toast.	57	30.58	3.52	14.4	8.94	83.1	12.85
Mushrooms, uncooked.....		2 large.	45	39.65	1.58	6.5	.18	1.7	3.06
Onions.....	a. h.	1 onion.	100	91.20	1.20	4.9	1.80	16.7	4.90
Parsnips <sup>4</sup> .....	a. h.	4 slices.	100	97.28	.22	.9	.29	2.7	1.46
Peas, green.....	a. h.	3 h. tbsp.	92	67.90	6.16	25.3	3.13	29.1	13.43
Potatoes, sweet, boiled.....	a. h.	a. size.	100	51.90	3.00	12.3	2.10	19.5	42.1
Potatoes, white: Baked <sup>5</sup> .....	a. h.	m. size. “ “	130	90.87	3.77	15.5	.20	1.9	32.07
Boiled.....	a. h.	150	113.25	3.75	15.4	.15	1.4	31.35	128.5
Chips.....	a. h.	50	1.10	3.40	13.9	19.90	185.1	23.35	95.7
Creamed.....	a. h.	4 “	115	85.79	3.61	14.8	5.17	48.1	19.07
Mashed and creamed.....	a. h.	2 “	100	75.10	2.60	10.7	3.00	27.9	17.80
Squash <sup>5</sup> .....	a. h.	2 “	100	83.62	1.36	5.6	.82	7.6	13.60
Spinach.....	a. h.	2 “	100	89.80	2.10	8.6	4.10	38.1	2.60
Tomatoes, canned.....	a. h.	2 “	70	65.80	.84	3.4	.14	1.3	2.80
Tomatoes, uncooked.....	a. h.	m. size. 2 h. tbsp.	200	188.00	2.40	9.8	.40	3.7	8.00
Turnips <sup>4</sup> .....	a. h.	140	136.15	.45	1.8	.08	.7	.91	3.7

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight.	Water.	Protein.	Fats.	Carbo-hydrates.	Calories.	Calories per 100 Grams.
			Grams.	Grams.	Grams.	Grams.	Grams.	Grams.	
<b>6. FRUITS.</b>									
A. Fresh, as purchased:									
Apple.....	a. h.	a. size.	150	94.95	.45	1.8	.45	4.2	66.4
Banana.....	a. h.	a. "	194	94.86	1.55	6.4	.78	7.3	127
Blackberries.....	a. h.	3 h. tbsp.	100	86.30	1.30	5.3	1.00	9.3	113.7
Cantaloupe.....	a. h.	1/2 melon.	465	232.50	1.40	5.7	...	21.39	44.7
Cherries.....	a. h.	About 1/4 lb.	100	76.80	.90	3.7	.80	7.4	93.3
Currants.....	a. h.	4 h. tbsp.	100	85.00	1.50	6.2	...	12.80	87.7
Grapefruit <sup>a</sup> .....	a. h.	1/2 large.	300	...	2.37	9.7	.60	5.6	93.2
Grapes.....	a. h.	1 bunch.	150	87.00	1.50	6.2	1.80	16.7	124.1
Gooseberries <sup>b</sup> .....	a. h.	4 h. tbsp.	90	77.04	.90	3.7	...	21.60	88.6
Huckleberries.....	a. h.	4 "	100	81.90	.60	2.5	.60	5.6	112.0
Lemon.....	a. h.	a. size.	130	81.25	.91	3.7	.65	6.0	7.67
Orange.....	a. h.	a. "	250	158.50	1.50	6.2	...	2.3	124.1
Peach.....	a. h.	a. "	128	93.82	.64	2.6	.12	1.2	87.1
Pear.....	a. h.	a. "	156	118.56	.78	3.2	.62	5.8	40.4
Pineapple, edible portion.	a. h.	2 slices.	100	89.30	.40	1.6	.30	2.8	9.70
Plum.....	a. h.	a. size.	35	26.07	.32	1.3	...	6.69	27.4
Raspberries.....	a. h.	3 h. tbsp.	82	70.36	.82	3.4	...	10.33	42.3
Strawberries.....	a. h.	4 h. "	100	90.40	1.00	4.1	...	5.6	46.5
Watermelon.....	a. h.	Large slice.	300	112.50	.60	2.5	.30	2.8	40.4

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight.	Water.	Protein.		Fats.		Carbo-hydrates.		Calories per 100 Grams.
					Grams.	Grams.	Grams.	Calor-ies.	Grams.	Calor-ies.	
B. Dried, as purchased:											
Apricots.....	10 large.	80	23.52	3.76	15.4	.80	7.4	50.00	205.0	228	284
Dates.....	10 "	83	11.45	1.58	6.5	2.08	19.3	58.60	240.3	266	320
Figs.....	10 "	117	36.66	8.38	34.4	.58	5.4	144.69	592.8	633	325
Prunes.....	10 very large.	200	38.00	3.60	14.8	...	...	124.40	510.0	525	262
Raisins.....	10 "	25	3.28	.57	2.3	.75	7.0	17.13	70.5	80	318
C. Stewed, Jellies, etc.*											
Apple, baked <sup>5</sup> .....	a. h.	1 large.	120	88.67	.61	2.5	.58	5.4	29.30	120.1	128
Apple sauce.....	a. h.	3 h. tbsp.	125	76.38	.25	1.0	1.00	9.3	46.50	190.7	201
Apricot sauce.....	a. h.	3 "	112	50.62	2.13	8.7	1.46	13.6	54.66	224.1	246
Cranberries, stewed.....	a. h.	2 h. tbsp.	100	60.70	0.27	1.1	0.41	3.8	36.00	147.6	153
Currant jelly <sup>5</sup> .....	a. h.	1 "	35	7.23	.36	1.5	...	...	27.16	111.4	113
Figs, stewed.....	a. h.	3 figs.	125	70.62	1.50	6.2	.38	3.5	51.13	209.6	219
Marmalade, orange.....	a. h.	1 h. tbsp.	30	4.35	.18	.7	.03	.3	25.35	103.9	105
Prune sauce.....	a. h.	4 very large and juice.	200	153.20	1.00	4.1	.20	1.9	44.60	182.9	189
Rhubarb, stewed.....	a. h.	2 h. tbsp.	90	56.26	.40	1.6	.47	4.4	32.40	132.8	139

\* Sugar used in preparation of the stewed fruits and jellies is included in the calculations.

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight. Grams.	Water. Grams.	Protein. Grams.	Fats. Grams.	Carbo- hydrates. Grams.	Calories per 100 Grams.	
								Calor- ies.	Total Calories.
<b>7. BREAD, CRACKERS, ETC.</b>									
<b>A. Bread:</b>									
Brown, baker's.	1 slice.	4x4x1/2 in.	80	34.88	4.32	17.7	1.44	37.68	154.5
Corn (Johnnycake).	"	3x2x3/4 in.	39	15.17	3.08	12.6	1.83	18.06	74.1
Rye.	"	3 1/2x3x1/2 in.	39	13.92	3.51	14.4	.23	2.1	20.74
Wheat:									
Buns, cinnamon.	1 bun.	.....	45	10.62	4.23	17.3	3.24	30.1	26.59
Buns, currant.	"	.....	50	13.75	3.35	13.7	3.80	35.3	28.80
Gluten.	1 slice.	3 1/2x2 3/4x1/2 in.	39	14.90	3.63	14.9	.55	5.1	19.42
Graham.	"	3 3/4x2 3/4x1/2 in.	37	13.21	3.29	13.5	.67	6.2	19.28
Biscuits, homemade.	1 biscuit.	.....	35	11.52	3.05	12.5	.91	8.5	19.36
Biscuits, soda.	"	.....	38	8.70	3.53	14.5	5.21	48.5	19.99
Rolls, French.	1 roll.	.....	39	12.48	3.32	13.6	.98	9.1	21.72
Rolls, Vienna.	"	.....	45	14.27	3.83	15.7	.99	9.2	25.43
Toasted.	1/2 slice.	4x2x1/4 in.	10	2.40	1.15	4.7	.16	1.5	6.12
White, baker's.	"	3 1/2x3x1/2 in.	30	10.59	2.76	11.3	.39	3.6	15.93
White, home made.	"	3 4x1/2 in.	37	12.95	3.37	13.8	.59	5.5	19.72
Whole wheat.	"	3 1/2x3 1/2x1/2 in.	42	16.13	4.07	16.7	.38	3.5	20.87
Zwieback.	"	3 1/2x2x1/2 in.	15	8.87	1.47	6.0	1.49	13.9	11.03

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight.	Water.	Protein.		Fats.		Carbo-hydrates.		Calories per 100 Grams.
					Grams.	Grams.	Calories.	Grams.	Calories.	Grams.	
<b>B. Crackers:</b>											
Boston (split).....	1 cracker	d. 2 in.	10	.75	1.10	4.5	.85	7.9	7.11	29.2	42
Butter.....	1 "	d. 2 "	4	.29	.38	1.6	.40	3.7	2.86	11.7	427
Cream lunch.....	1 "	d. 3 "	13	.88	1.26	5.2	1.57	14.6	9.06	37.2	57
Graham.....	1 "	3 in. sq.	8	.43	.80	3.3	.75	7.0	5.9	24.2	34
Oatmeal.....	1 "	3 "	10	.63	1.18	4.8	1.11	10.3	6.90	28.3	43
Oyster.....	10 crk'rs	d. 1 in.	11	.53	1.24	5.1	1.16	10.8	7.76	31.8	48
Pilot bread.....	1 cracker	d. 5 "	33	2.87	3.66	15.0	1.65	15.4	24.49	100.4	131
Pretzels.....	1 "	2 in. sq.	6	.58	.58	2.4	.23	2.1	4.37	17.9	22
Saltines.....	1 "	2 in. sq.	3	.17	.32	1.3	.38	3.5	2.06	8.4	13
Soda:											
Educators.....	1 "	2 "	3	.08	.97	4.0	..	..	1.39	5.7	10
Uneeda biscuits.....	1 "	3 "	6	.35	.59	2.4	.55	5.1	4.38	17.7	25
Zephyrs.....	1 "	3½ in. sq.	10	.59	.98	4.0	.91	8.5	7.31	30.0	43
<b>C. Sandwiches:</b>											
Chicken.....	a. h.	1 sandwich.	70	33.95	8.61	35.3	3.78	35.2	22.47	92.1	163
Egg.....	1 "	"	100	41.40	9.60	39.4	12.70	118.1	34.50	141.5	299
Ham.....	a. h.	"	70	24.15	7.28	29.8	10.07	93.7	26.65	109.3	332

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight. Grams.	Water.	Protein. Grams.	Fats. Grams.	Carbo- hydrates. Grams.	Calor- ies.	Calories per 100 Grams.	
									Calor- ies.	Total Calories.
8. BREAKFAST FOODS, MILK CRUELS, ETC.*										
Cream toast.....	a. h.	2 slices.	136	71.28	9.03	37.0	14.60	135.8	37.15	152.3
Ingredients:										
2 slices toast.										
5 tbsp. cream sauce.										
Farina.....	a. h.	2 h. tbsp.	100	86.63	1.65	6.8	.21	2.0	11.45	47.0
Force <sup>4</sup> .....	a. h.	5 " "	18	1.67	1.70	7.0	.24	2.2	13.87	56.9
Grapenuts <sup>4</sup> .....	a. h.	5 " "	65	4.02	7.78	31.9	.40	3.7	51.51	211.2
Gruels (milk):										
Arrowroot.....	a. h.	4 h. tbsp.	200	155.78	8.25	33.8	10.00	93.0	24.20	99.2
Ingredients:										
1 tbsp. arrowroot.										
1 c. milk.										
Barley.....	a. h.	4 " "	120	93.12	5.94	24.4	6.41	59.6	13.25	54.3
Ingredients:										
1 tbsp. barley flour.										
1 1/4 c. milk.										

\* The sugar, milk or cream, with which any of this group may be served, is not considered and their caloric value must therefore be added when used.

TABLE II.—Continued.

Food Stuffs.	Portion.	Quantity.	Weight. Grams.	Water.	Protein. Grams.	Fats. Grams.	Carbo- hydrates. Grams.	100 Grams.	
								Calor- ies.	Total Calories.
Gruels (milk)—Continued.									
Cornmeal.....	a. h.	4 h. tbsp.	115	96.76	3.85	15.8	4.11	38.2	9.52
Ingredients:									
2 tbsp. white corn- meal.									
2 c. milk.									
Oatmeal.....	a. h.	2 " "	100	59.81	8.72	35.8	8.10	75.3	21.83
Ingredients:									
3 tbsp. oatmeal.									
2 c. milk.									
Hominy, boiled.....	a. h.	2 " "	100	79.30	2.20	9.0	.20	1.9	17.80
H-O, boiled <sup>4</sup> .....	a. h.	2 " "	100	84.07	2.42	9.9	1.45	13.5	11.76
Indian meal mush.....	a. h.	3 " "	115	92.90	2.10	8.6	1.18	11.0	18.50
Macaroni, boiled.....	a. h.	2 " "	100	78.40	3.00	12.3	1.50	14.0	15.80
baked with cheese.....	a. h.	2 " "	140	54.42	19.06	78.1	20.46	190.3	43.44
Oatmeal, boiled.....	a. h.	2 " "	100	84.50	2.80	11.5	.50	4.7	11.50
Puffed rice <sup>13</sup> .....	a. h.	5 " "	14	.99	.87	3.6	.08	.7	12.00
Rice, boiled.....	a. h.	1 " "	100	72.50	2.80	11.5	.10	.9	24.40
Shredded wheat biscuit.....	a. h.	1 biscuit.	29	2.35	3.05	12.5	.41	3.8	22.59

TABLE II.—*Continued.*

Food Stuffs.	Portion.	Quantity.	Weight.	Water.	Protein.		Fats.		Carbo-hydrates.		Total Calories.	Calories per 100 Grams.
					Grams.	Grams.	Grams.	Calories.	Grams.	Calories.		
Spaghetti, baked with tomato.....	a. h.	3 h. tbsp.	145	111.21	4.52	18.5	2.81	25.76	105.6	150	103	364
Vermicelli, boiled.....	a. h.	2 " "	100	88.43	1.42	5.8	.26	2.4	9.36	47	47	334
Wheat germ, boiled.....	a. h.	2 " "	100	84.77	1.79	7.3	.34	3.2	12.92	53.0	64	183
<b>9. CAKES, PASTRY, PUD- DINGS, ETC.</b>												280
<i>A. Cakes:</i>												288
Chocolate layer.....	a. h.	70	14.30	4.34	17.8	5.67	52.7	44.87	184.0	255	352	396
Frosted.....	1 slice.	40	7.28	2.36	9.7	3.60	33.5	25.92	106.1	149	421	426
Fruit.....	1 "	44	7.61	2.60	10.7	4.80	44.6	28.20	115.6	171	388	388
Gingerbread.....	1 "	60	11.28	3.48	14.3	5.40	50.2	38.10	156.2	221	368	368
Sponge.....	1 "	23	3.52	1.45	6.0	2.46	22.9	15.16	62.2	91	146	226
<i>B. Pastry:</i>												288
Pie:												288
Apple.....	a. h.	1/6 pie.	126	53.55	3.91	16.0	12.35	114.9	53.93	221.1	352	352
Cream.....	a. h.	1/6 "	126	40.32	5.54	22.7	14.36	133.6	64.51	264.5	421	421
Custard.....	a. h.	1/6 "	133	82.99	5.59	23.0	8.38	77.9	34.71	142.3	243	243
Lemon.....	a. h.	1/6 "	110	52.14	3.96	16.2	11.11	103.3	41.14	168.7	288	288

TABLE II.—Continued.

TABLE II.—Continued.

TABLE II.—*Continued.*

TABLE II.—*Continued.*

TABLE II.—Continued.

TABLE II.—*Continued.*

TABLE II.—*Concluded.*

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TABLE III.  
ALCOHOLIC BEVERAGES.\*

(The small numbers in the first column refer to the list of references on page 62.)

BEVERAGE.	Portion.	Quantity.	Alcohol. Per cent. by Weight.	Total Extracts. Per cent.	Total Fuel Value. Calories.	Calories per 100 Grams.
<b>A. DISTILLED LIQUORS.</b>						
Brandy, California.....	Cordial glass.	20 c.e.	45.80	0.45	65	325
	" "	20 "	44.00	.01	62	310
Brandy, cherry.....	" "	20 "	55.90	.02	78	390
Brandy, cognac, pure French.....	Cocktail glass.	75 "	21.30	6.21	131	175
Cocktail, Dry Martini.....		50 "	30.00	5.50	116	232
Gin.....						

\* The enormous variation in the composition of alcoholic liquors has made it exceedingly difficult to choose values which should be accurate and comparable. As a rule, the percentages given are averages of a large number of analyses and if not strictly accurate are as nearly so as it is possible to obtain them. When no authority is given, the figures are averages of those published by one or more authorities and cited by König.

The total extractives are reckoned as sugar, notwithstanding the fact that they comprise other substances than carbohydrates in small amounts which cannot be classed as foods. The percentage of these, however, is so small that the error is negligible.

Alcohol is computed solely on the basis of its function as a food. It must not be overlooked that in more than very moderate quantities it acts as a drug instead, and when taken to excess this action may negative entirely its action as a food, or even interfere with the digestion and absorption of other foods.

TABLE III.—*Continued.*

BEVERAGE.	Portion.	Quantity.	Alcohol.	Total Extracts.	Total Fuel Value.	Calories per 100 Grams.
			Percent. by Weight.	Per cent.	Calories.	
<b>A. DISTILLED LIQUORS—Continued.</b>						
Liqueurs:						
Benedictine <sup>5</sup>		Cordial glass.	20 c.c.	42.40	35.00	440
Chartreuse <sup>5</sup>		"	20 "	35.20	35.40	390
Curaçao <sup>5</sup>		"	20 "	42.00	27.90	410
Crème de Menthe.		"	20 "	36.50	28.28	370
Kümmel.		"	20 "	26.00	29.80	305
Rum.		.....	50 "	43.50	13	306
Rum, pure Jamaica.		.....	50 "	69.61	.61	490
Whiskey, American, genuine <sup>1</sup> .		.....	50 "	43.00	.70	304
Whiskey, European <sup>1</sup> .		.....	50 "	39.00	.....	274
<b>B. WINES AND CIDERS.</b>						
1. American Wines.						
California, red <sup>2</sup> .		Claret glass.	120 "	9.50	3.10	79
California, white <sup>2</sup> .		"	120 "	9.00	2.70	74
Sweet wines:						
Catawba <sup>2</sup> .		Sherry glass.	30 "	11.07	5.60	100
Champagne.		Champagne glass.	135 "	8.27	9.74	98
Port, California.		Sherry glass.	30 "	14.81	12.17	176
Sherry, California.		"	30 "	14.53	5.53	126

TABLE III.—Continued.

BEVERAGE.	Portion.	Quantity.	Alcohol. Percent, by Weight.	Total Extracts. Per cent.	Total Fuel Value. Calories.	Calories per 100 Grams.
<b>B. WINES AND CIDER—Continued.</b>						
<b>2. European Wines.</b>						
Champagne, dry . . . . .		135 c.c.	10.42	2.36	112	83
French, red (claret) . . . . .	120 "	8.16	2.42	81	67	
French, white . . . . .	120 "	9.48	3.03	95	79	
Mosel and Saar, white . . . . .	120 "	7.36	2.31	73	61	
Rhein, white . . . . .	120 "	8.12	2.91	83	69	
Sweet wines:						
Champagne . . . . .	135 "	9.50	12.88	161	119	
Sherry glass . . . . .	30 "	15.40	5.52	39	130	
" " " " " . . . . .	30 "	11.93	21.73	52	173	
Madeira . . . . .	30 "	15.85	5.28	40	133	
Malaga . . . . .	30 "	16.69	8.05	45	150	
Marsala . . . . .	30 "	17.45	3.98	42	140	
Port . . . . .	30 "	11.19	12.72	39	130	
Sherry . . . . .						
Tokay, fresh . . . . .						
<b>3. Ciders.</b>						
American, sweet <sup>3</sup> . . . . .	Glass.	250	1.40	8.20	109	44
American, fermented <sup>3</sup> . . . . .	"	250	5.17	3.88	130	52

TABLE III.—*Concluded.*

BEVERAGE.	Portion.	Quantity.	Alcohol. Per cent. by Weight.	Total Extracts. Per cent.	Total Fuel Value. Calories.	Calories per 100 Grams.
<b>C. MALT LIQUORS.</b>						
1. <i>American.</i>						
Ale	Glass.	250 c.c.	6.02	4.86	155	62
Lager beer, bottled	"	250 "	4.53	4.96	130	52
Lager beer, draft	"	250 "	4.27	4.40	120	48
Porter	"	250 "	4.46	6.00	140	56
2. <i>European.</i>						
Ale	"	250 "	5.27	5.99	154	62
Bock beer	"	250 "	4.20	7.10	146	58
Export beer	"	250 "	4.29	6.50	142	57
Light beer	"	250 "	3.69	5.39	120	48
Munich, heavy beer	"	250 "	4.54	9.96	182	73
Pilsen, export beer	"	250 "	4.28	4.69	123	49
Porter (Stout)	"	250 "	5.16	7.97	172	69
Weissbeer	"	250 "	2.79	5.29	103	41

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TABLE IV.

## AVERAGE CHEMICAL COMPOSITION OF AMERICAN FOODS.\*

Abstracted from Atwater and Bryant, United States Department of Agriculture, Office of Experiments Station,  
*Bulletin* No. 28, 1906.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value.	
						Calories per Pound.	Calories per 100 Grams.
ANIMAL FOOD.							
A. BEEF.							
<i>Fresh.</i>							
Brisket	54.6	15.8	28.5	.....	0.9	1,495	330
Chuck, including shoulder	65.0	19.2	15.4	.....	.9	1,005	222
Flank	59.3	19.6	21.1	.....	.9	1,255	277
Loin	61.3	19.0	19.1	.....	1.0	1,155	255
Sirloin butt, as purchased	62.5	19.7	17.7	.....	.9	1,115	246
Porterhouse steak	60.0	21.9	20.4	.....	1.0	1,270	280
Sirloin steak	61.9	18.9	18.5	.....	1.0	1,130	249
Tenderloin, as purchased	59.2	16.2	24.4	.....	.3	1,330	293
Ribs	57.0	17.8	24.6	.....	.9	1,370	302
Round	67.8	20.9	18.6	.....	1.1	835	184
Rump	57.9	18.7	23.1	.....	.9	1,325	292

\* Unless otherwise stated, the values in each case are for the edible portion only.

TABLE IV.—Continued.

Food Materials.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Calories per Pound.	Fuel Value.
							Calories per 100 Grams.
<i>Fresh</i> —Continued.							
Shank, fore.....	70.3	21.4	8.1	.....	.9	740	163
Shoulder and clod.....	68.9	20.0	10.3	.....	1.1	805	177
Forequarter.....	62.5	18.3	18.9	.....	.9	1,135	250
Hindquarter.....	62.2	19.3	18.3	.....	.9	1,130	249
<i>Beef Organs.</i>							
Brain.....	80.6	8.8	9.3	.....	1.1	555	122
Heart.....	62.6	16.0	20.4	.....	1.0	1,160	256
Kidney.....	76.7	16.6	4.8	0.4	1.2	520	115
Beef liver.....	71.2	20.4	4.5	1.7	1.6	605	133
Sweetbreads, as purchased.....	70.9	16.8	12.1	.....	1.6	825	181
Suet, as purchased.....	13.7	4.7	81.8	.....	.3	3,540	780
Tongue.....	70.8	18.9	9.2	.....	1.0	740	163
<i>Cooked.</i>							
Scraps, as purchased.....	23.2	21.4	51.7	.....	3.5	2,580	569
Roast, as purchased.....	48.2	22.3	28.6	.....	1.3	1,620	357
Pressed, as purchased.....	44.1	23.6	27.7	.....	1.5	1,610	355
Round steak, fat removed, as purchased.....	63.0	27.6	7.7	.....	1.8	840	185
Loin steak, tenderloin, broiled.....	54.8	23.5	20.4	.....	1.2	1,300	287
Sandwich meat, as purchased.....	58.3	28.0	11.0	.....	2.8	985	217

TABLE IV.—Continued.

Food Materials.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Fuel Value.	Calories
							per 100 Grams.
<i>Canned.</i>							
Boiled beef, as purchased	25.5	22.5	.....	.....	1.3	1,425	314
Corned beef	26.3	18.7	.....	.....	4.0	1,280	282
Dried beef, as purchased	39.2	5.4	.....	.....	11.2	960	212
Luncheon beef, as purchased	27.6	15.9	.....	.....	4.8	1,185	261
Roast beef, as purchased	25.9	14.8	.....	.....	1.3	1,105	243
Tongue, whole, as purchased	19.5	23.2	.....	.....	4.0	1,340	295
<i>Corned and Pickled.</i>							
Brisket	50.9	18.3	24.7	.....	5.7	1,385	305
Flank	49.9	14.6	33.0	.....	2.9	1,665	367
Plate	40.1	13.7	41.9	.....	4.7	2,025	446
Rump	58.1	15.3	23.3	.....	3.3	1,270	280
Mess beef, salted	37.0	12.6	44.5	.....	6.5	2,110	465
Corned beef	53.6	15.6	26.2	.....	4.9	1,395	308
Spiced beef, rolled, as purchased	30.0	12.0	51.4	.....	6.8	2,390	527
Tongues, pickled	62.3	12.8	20.5	.....	4.7	1,105	243
Tripe, as purchased	87.5	11.7	1.2	0.2	.3	270	60
Dried, salted and smoked	54.3	30.0	6.5	.4	9.1	840	185
<i>B. VEAL.</i>							
<i>Fresh.</i>							
Breast	68.2	20.3	11.0	.....	1.0	840	185
Chuck	73.8	19.7	5.8	.....	1.0	610	134

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Calories per Pound.	Fuel Value.
								Calories per 100 Grams.
<i>Fresh</i> —Continued.								
Flank, as purchased	66.9	20.1	12.7	...	1.0	910	201	
Leg	71.7	20.7	6.7	...	1.1	670	146	
Loin	69.5	19.9	10.0	...	1.1	790	174	
Rib	69.8	20.2	9.4	...	1.1	775	170	
Rump	62.6	19.8	16.2	...	1.1	1,050	231	
Shank, hind	73.6	20.7	5.5	...	1.0	615	136	
Shoulder and flank, medium fat	65.2	19.7	14.4	...	1.1	975	215	
Forequarter	71.7	20.0	8.0	...	.9	710	157	
Hindquarter	70.9	20.7	8.3	...	1.0	735	160	
Heart, as purchased	73.2	16.8	9.6	...	1.0	720	159	
Kidneys, as purchased	75.8	16.9	6.4	...	1.3	585	129	
Liver	73.0	19.0	5.3	...	1.3	575	127	
Lungs	76.8	17.1	5.0	...	1.1	530	117	
<b>C. LAMB.</b>								
<i>Fresh</i> .								
Breast or chuck	56.2	19.1	23.6	...	1.0	1,350	298	
Leg, hind	58.6	18.6	22.6	...	1.0	1,300	287	
Loin, without kidney and tallow	53.1	18.7	28.3	...	1.0	1,540	340	
Neck	56.7	17.7	24.8	...	1.0	1,375	303	

TABLE IV.—*Continued.*

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Calories per Pound.	Fuel Value.
								Calories per 100 Grams.
<i>Fresh</i> —Continued.								
Shoulder . . . . .	51.8	18.1	29.7	.....	1.0	1,590	351	
Forequarter . . . . .	55.1	18.3	25.8	.....	1.0	1,430	315	
Hindquarter . . . . .	60.9	19.6	19.1	.....	1.0	1,170	258	
Side, without tallow . . . . .	58.2	17.6	23.1	.....	1.1	1,300	287	
<i>Cooked</i> .								
Chops, broiled . . . . .	47.6	21.7	29.9	.....	1.3	1,665	367	
Leg, roast . . . . .	67.1	19.7	12.7	.....	.8	900	198	
Tongue, spiced and cooked . . . . .	67.4	13.9	17.8	.....	.5	1,010	223	
D. MUTTON.								
<i>Fresh</i> .								
Chuck, lean . . . . .	64.7	17.8	16.3	.....	.9	1,020	225	
Chuck . . . . .	48.2	14.6	36.8	.....	.8	1,825	402	
Flank . . . . .	42.7	14.3	42.6	.....	.7	2,065	455	
Leg, hind . . . . .	63.2	18.7	17.5	.....	1.0	1,085	239	
Loin, without kidney or tallow . . . . .	47.8	15.5	36.2	.....	.8	1,815	400	
Neck . . . . .	56.6	16.7	26.3	.....	1.0	1,420	313	
Shoulder . . . . .	60.2	17.5	21.8	.....	.9	1,245	274	
Forequarter . . . . .	52.9	15.6	30.9	.....	.9	1,595	352	

TABLE IV.—Continued.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value.	
						Calories per Pound.	Calories per 100 Grams.
<i>Fresh</i> —Continued.							
Hindquarter . . . . .	54.8	16.7	28.1	.....	.8	1,495	330
Side, including tallow . . . . .	54.2	16.3	28.9	.....	.9	1,520	335
Side, not including tallow . . . . .	53.6	16.2	29.8	.....	.8	1,560	344
Heart, as purchased . . . . .	69.5	16.9	12.6	.....	.9	845	186
Kidneys, as purchased . . . . .	78.7	16.5	3.2	.....	1.3	440	97
Liver, as purchased . . . . .	61.2	23.1	9.0	5.0	1.7	905	200
<i>Cooked</i> .							
Mutton, leg, roast . . . . .	50.9	25.0	22.6	.....	1.2	1,420	313
E. PORK.							
<i>Fresh</i> .							
Chuck, ribs and shoulder . . . . .	51.1	17.3	31.1	.....	.9	1,635	360
Ham, fresh . . . . .	50.1	15.7	33.4	.....	.9	1,700	375
Loin (chops) . . . . .	50.7	16.4	32.0	.....	.9	1,655	365
Loin, tenderloin . . . . .	66.5	18.9	13.0	.....	1.0	900	198
Middle cuts . . . . .	48.2	15.7	36.3	.....	.7	1,825	402
Shoulder . . . . .	51.2	13.3	34.2	.....	.8	1,690	373
Side, lard and other fat included . . . . .	29.4	9.4	61.7	.....	.4	2,780	611
Ham fat, as purchased . . . . .	9.1	3.5	88.0	.....	.2	3,780	834
Feet . . . . .	55.4	15.8	26.3	.....	.8	1,405	310

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Fuel Value.	
						Calories per Pound.	Calories per 100 Grams.
<i>Pickled, Salted and Smoked.</i>							
Ham, smoked	39.8	16.5	38.8	.....	4.7	1,945	429
Smoked, boiled, as purchased	51.3	20.2	22.4	.....	6.1	1,320	291
Smoked, fried, as purchased	36.6	22.2	33.2	.....	5.8	1,815	400
Luncheon, cooked, as purchased.							
Refuse—2 1	48.1	22.1	20.6	.....	5.7	1,280	282
Pigs' tongues, pickled	58.6	17.7	19.8	.....	3.6	1,165	257
Feet, pickled	68.2	16.3	14.8	.....	3.9	930	205
Salt pork, clear fat, as purchased	7.9	1.9	86.2	.....	3.9	3,670	809
Bacon, smoked	20.2	10.5	64.8	.....	5.1	2,930	646
Steak, cooked, as purchased	33.2	.....	45.4	.....	1.5	2,285	504
<i>F. SAUSAGE, as purchased.</i>							
Aries	16.3	25.4	48.0	.....	6.9	2,495	550
Refuse—5 2	61.7	18.0	15.4	.....	3.6	985	217
Banquet	“ 1.6	“ 3.3	55.2	18.2	19.7	1,170	258
Bologna	“ 3.3	“ 3.9	22.2	27.9	40.4	2,225	491
Farmer	“ 3.9	“ 3.9	57.2	19.6	18.6	1,170	258
Frankfort	“ 2.2	25.1	28.7	36.5	3.3	2,135	471
Holsteiner	“ 10.0	29.2	29.1	24.5	4.2	1,575	349
Lyons, pure ham	39.8	13.0	44.2	1.1	7.2	2,125	468
Pork	.....				2.2		

TABLE IV.—Continued.

Food Materials.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value.	
						Calories per 100 Grams.	Calories per Pound.
<b>F. SAUSAGE, as purchased—Continued.</b>							
Pork sausage meat . . . . .	46.2	17.4	32.5	.....	3.4	1,695	374
Refuse—9.3	27.6	21.8	36.2	.....	6.4	1,935	427
.....	43.9	28.0	22.1	1.6	4.4	1,485	327
<b>G. POULTRY.*</b>							
<i>Fresh.</i>							
Chicken, broiler . . . . .	69.7	20.7	8.3	.....	1.1	890	196
Giblets . . . . .	72.8	18.7	6.1	.....	1.3	730	161
Capon . . . . .	56.7	21.5	21.2	.....	1.2	1,465	323
Giblets . . . . .	63.3	20.5	14.6	.....	1.3	1,155	255
Young . . . . .	68.4	21.9	8.9	.....	1.1	945	208
Dark meat . . . . .	70.1	20.8	8.2	.....	1.2	850	187
Light meat . . . . .	70.3	21.9	7.4	.....	1.1	835	184
Giblets . . . . .	71.0	19.8	6.4	.....	1.3	810	179
Liver . . . . .	69.3	22.4	4.2	2.4	1.7	800	176
Heart . . . . .	72.0	20.7	5.5	.....	1.4	770	170
Gizzard . . . . .	72.5	24.7	1.4	.....	1.4	695	153

\* Woods. "Meats: Composition and Cooking." *Farmers' Bulletin*, No. 34, United States Department of Agriculture, 1904.

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Calories per Pound.	Fuel Value.
								Calories per 100 Grams.
<i>Fresh</i> —Continued.								
Duck.	61.1	18.3	19.0	.....	1.3	1,290	284	
Meat, not including breast or giblets	55.5	17.4	26.1	.....	1.0	1,540	340	
Breast.	73.9	22.3	2.3	.....	1.3	685	151	
Giblets.	73.2	17.9	5.0	.....	1.8	720	159	
Green goose.	48.2	15.1	36.0	.....	.9	1,940	428	
Meat, not including giblets	46.0	15.0	38.3	.....	.8	2,030	448	
Giblets.	68.7	22.3	7.3	.....	1.4	995	219	
Goose.	54.0	16.6	28.7	.....	1.1	1,660	366	
Meat, not including giblets	51.8	16.2	31.5	.....	1.0	1,755	387	
Giblets.	70.0	20.1	8.2	.....	1.7	910	201	
Gizzard.	73.8	19.6	5.8	.....	1.0	750	165	
Liver.	62.6	16.6	15.9	3.7	1.2	1,175	259	
Guinea hen	69.1	23.1	6.5	.....	1.3	870	192	
Meat, not including giblets	68.9	23.4	6.5	.....	1.3	865	191	
Giblets.	69.9	20.8	7.1	.....	1.3	855	188	
Pheasant.	69.9	24.4	4.8	.....	1.1	830	183	
Meat, not including giblets	70.0	24.7	4.6	.....	1.1	815	180	
Giblets.	68.9	20.1	7.2	.....	1.6	880	194	
Pigeon.	64.0	22.8	11.0	.....	1.5	1,060	234	
Meat, not including giblets	63.2	22.9	12.1	5.2	1.4	1,100	243	
Giblets.	68.1	22.2	5.2	.....	2.3	845	186	

TABLE IV.—Continued.

Food Materials.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value. Calories per Pound.	Calories per 100 Grams.
<i>Fresh</i> —Continued.							
Quail	65.9	25.0	6.8	.....	1.6	935	206
Meat, not including giblets	66.3	25.4	7.0	.....	1.4	945	208
Giblets	63.0	21.8	6.2	.....	2.3	970	214
Squabs	58.0	18.6	22.1	.....	1.5	1,430	315
Meat, not including giblets	56.6	18.5	23.8	.....	1.4	1,470	324
Giblets	69.8	19.8	7.2	.....	7.2	835	184
Turkey	57.4	22.2	18.9	.....	1.2	1,385	305
Dark meat	57.0	21.4	20.6	.....	1.1	1,435	316
Light meat	63.9	25.7	9.4	.....	1.3	1,065	235
Giblets	56.7	17.7	23.5	.....	1.2	1,480	326
Dark meat, cooked	53.7	39.2	4.3	.....	2.2	1,200	265
Light meat, cooked	58.5	34.6	4.9	.....	1.8	1,090	240
Young	66.1	24.9	8.7	.....	1.3	1,015	224
Cooked	52.0	27.8	18.4	.....	1.2	1,295	285
Heart	68.6	16.8	13.2	.....	1.0	1,000	222
Liver	69.6	22.9	5.2	0.6	1.7	820	181
Gizzard	62.7	20.5	14.5	1.2	1.1	1,170	258
<i>Preserved Poultry Meat.</i>							
Smoked goose breast (including skin and fat)	35.7	20.1	38.7	.....	5.5	2,210	487

TABLE IV.—Continued.

## Food MATERIALS.

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	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value. Calories per Pound.	Calories per 100 Grams.
<i>Preserved</i> —Continued.							
Potted turkey.....	56.0	17.2	22.0	.....	3.0	1,390	306
Potted chicken.....	56.1	19.4	20.3	.....	2.5	1,390	306
Canned chicken soup.....	87.1	2.9	3.3	5.1	1.6	300	66
Canned chicken gumbo soup.....	91.0	2.4	2.2	4.8	1.6	160	35
Canned boned chicken.....	57.6	27.7	12.8	.....	2.2	1,245	274
Canned sandwich chicken.....	46.9	20.8	30.0	.....	2.6	1,825	402
Canned sandwich turkey.....	47.4	20.7	29.2	.....	2.7	1,790	395
H. FISH.							
<i>Fresh.</i>							
Bass, black, whole.....	76.7	20.6	1.7	1.2	.....	455	103
Sea, whole.....	79.3	19.8	.5	1.4	.....	390	86
Striped, whole.....	77.7	18.6	2.8	1.2	.....	465	102
Blackfish, whole.....	79.1	18.7	1.3	1.1	.....	405	89
Bluefish, entrails removed.....	78.5	19.4	1.2	1.3	.....	410	90
Butterfish, whole.....	70.0	18.0	11.0	1.2	.....	800	176
Cod, whole.....	82.6	16.5	.4	1.2	.....	325	72
Steaks.....	79.7	18.7	.5	1.2	.....	370	81
Eels, salt water.....	71.6	18.6	9.1	1.0	.....	730	161
Flounder, whole.....	84.2	14.2	.6	1.3	.....	290	64

TABLE IV.—Continued.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Calories per Pound.	Fuel Value. Calories per 100 Grams.
<i>Fresh</i> —Continued.							
Haddock, entrails removed . . . . .	81.7	17.2	.3	1.2	...	335	74
Hake, entrails removed . . . . .	83.1	15.4	.7	1.0	...	315	69
Halibut, steak or sections . . . . .	75.4	18.6	5.2	1.0	...	565	125
Herring, whole . . . . .	72.5	19.5	7.1	1.5	...	660	146
Mackerel, whole . . . . .	73.4	18.7	7.1	1.2	...	645	142
Muskellunge, whole . . . . .	76.3	20.2	2.5	1.6	...	480	106
Perch, white, whole . . . . .	75.7	19.3	4.0	1.2	...	530	117
White, whole, as purchased . . . . .	28.4	7.3	1.5	.4	...	200	44
Yellow, whole . . . . .	79.3	18.7	.8	1.2	...	380	84
Pickeral, pike, whole . . . . .	79.8	18.7	.5	1.1	...	370	81
Pike, gray, whole* . . . . .	80.8	17.9	.8	1.1	...	365	80
Pompano, whole . . . . .	72.8	18.8	7.5	1.0	...	665	147
Porgy (scup), whole . . . . .	75.0	18.6	5.1	1.4	...	560	123
Red grouper, entrails removed . . . . .	79.5	19.3	.6	1.1	...	385	85
Red snapper, whole . . . . .	78.5	19.7	1.0	1.3	...	410	90
Salmon, whole . . . . .	64.6	22.0	12.8	1.4	...	950	209
Landlocked, whole, spent . . . . .	77.7	17.8	3.3	1.2	...	470	104
California, anterior sections . . . . .	63.6	17.8	17.8	1.1	...	1,080	238
Shad, whole . . . . .	70.6	18.8	9.5	1.3	...	750	165

\* Not average.

TABLE IV.—Continued.

Food Materials.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Fuel Value.	Calories per 100 Grams.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Calories per Pound.	
<i>Fresh</i> —Continued.							
Roe, as purchased*	71.2	20.9	3.8	1.5	.....	600	133
Sheepshead, whole	75.6	20.1	3.7	1.2	.....	530	117
Smelt, whole	79.2	17.6	1.8	1.7	.....	405	89
Spanish mackerel, whole*	68.1	21.5	9.4	1.5	.....	795	175
Surgeon, anterior sections*	78.7	18.1	1.9	1.4	.....	41.5	91
Tomcod, whole*	81.5	17.2	4.4	1.0	.....	335	74
Trout, brook, whole	77.8	19.2	2.1	1.2	.....	44.5	98
Salmon, or lake	70.8	17.8	10.3	1.2	.....	76.5	169
Turbot	71.4	14.8	14.4	1.3	.....	88.5	195
Weakfish, whole*	79.0	17.8	2.4	1.2	.....	430	95
Whitefish, whole*	69.8	22.9	6.5	1.6	.....	700	154
<i>Preserved and Canned.</i>							
Cod, salt	53.5	25.4	0.3	.....	24.7	410	90
Salt, "boneless"	55.0	27.3	.3	.....	19.0	490	108
Haddock, smoked*	72.5	23.3	.2	.....	3.6	440	97
Halibut, smoked	49.4	20.7	15.0	.....	15.0	1,020	225
Herring, smoked*	34.6	36.9	15.8	.....	13.2	1,335	299
Mackerel, salt, dressed	43.4	17.3	26.4	.....	12.9	1,435	316
Salmon, canned	63.5	21.8	12.1	.....	2.6	915	201

\* Not average.

TABLE IV.—Continued.

FOOD MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value.	
						Calories per Pound.	Calories per 100 Grams.
<i>Preserved and Canned—Continued.</i>							
Sardines, canned.....	52.3	23.0	19.7	.....	5.6	1,260	278
Sturgeon, caviare, pressed, Russian, as purchased*.....	38.1	30.0	19.7	7.6	4.6	1,530	337
<i>Shellfish, etc., Fresh.</i>							
Clams, long, in shell.....	85.8	8.6	1.0	2.0	2.6	240	53
As purchased.....	49.9	5.0	.6	1.1	1.5	140	31
Round, in shell*.....	86.2	6.5	.4	4.2	2.7	215	47
Round, removed from shell, as purchased*.....	80.8	10.6	1.1	5.2	2.3	340	75
Crabs, hardshell, whole*.....	77.1	16.6	2.0	1.2	3.1	415	91
As purchased*.....	36.7	7.9	.9	.6	1.5	195	43
Lobster, whole.....	79.2	16.4	1.8	4.4	2.2	390	86
Mussels, in shell*.....	84.2	8.7	1.1	4.1	1.9	285	63
Oysters, in shell.....	86.9	6.2	1.2	3.7	2.0	235	52
Solids, as purchased.....	88.3	6.0	1.3	3.3	1.1	230	51
Scallops, as purchased.....	80.3	14.8	1.1	3.4	1.4	345	76
Terrapin*.....	74.5	21.2	3.5	.....	1.0	545	120
Turtle, green, whole* .....	79.8	19.8	.5	.....	1.2	390	86

\* Not average.

TABLE IV.—Continued.

Food Materials.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value.	
						Calories per Pound.	Calories per 100 Grams.
<i>Shellfish, etc., Canned, as purchased.</i>							
Crabs.....	80.0	15.8	1.5	.7	2.0	370	81
Lobster.....	77.8	18.1	1.1	.5	2.5	390	86
Oysters.....	83.4	8.8	2.4	3.9	1.5	335	74
Shrimps*.....	70.8	25.4	1.0	.2	2.6	520	115
 <i>I. EGGS.</i>							
Hens', uncooked.....	73.7	13.4	10.5	.....	1.0	720	159
Boiled.....	73.2	13.2	12.0	.....	.8	765	169
Boiled whites.....	86.2	12.3	.2	.....	.6	250	55
Boiled yolks.....	49.5	15.7	33.3	.....	1.1	1,705	376
 <i>J. DAIRY PRODUCTS, ETC., as purchased.</i>							
Butter.....	11.0	1.0	85.0	.....	3.0	3,605	795
Buttermilk.....	91.0	3.0	.5	4.8	.7	165	36
Cheese, American, pale.....	31.6	28.8	35.9	.3	3.4	2,055	453
American, red.....	28.6	29.6**	38.3	.....	3.5	2,165	477
Boudon.....	55.2	15.4	20.8	1.6	7.0	1,195	263
California flat.....	34.0	24.3	33.4	4.5	3.8	1,945	429
Cheddar.....	27.4	27.7	36.8	4.1	4.0	2,145	473

\* Not average.

\*\* Determined by difference.

TABLE IV.—Continued.

Food Materials.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value. Calories per Pound.	Calories per 100 Grams.
<b>J. DAIRY PRODUCTS, ETC., as purchased—Continued.</b>							
Cheese, Cheshire.....	37.1	26.9	30.7	.9	4.4	1,810	399
Cottage.....	72.0	20.9	1.0	4.3	1.8	510	112
Crown brand cream.....	31.4	5.2	58.0	2.2	3.2	2,585	570
Dutch.....	35.2	37.1**	17.7	... 1.4	10.0	1,435	316
Fromage de Brie.....	60.2	15.9	21.0	... 2.4	1.5	1,210	267
Full cream.....	34.2	25.9	33.7	2.4	3.8	1,950	430
Imitation full cream, Ohio.....	37.9	25.9**	31.7	... 1.3	4.5	1,820	401
Imitation old English.....	20.7	30.1	42.7	... 4.4	5.2	2,385	526
Limburger.....	42.1	23.0	29.4	1.5	5.1	1,675	369
Neuchatel.....	50.0	18.7	27.4	1.5	2.4	1,530	337
Pineapple.....	23.0	29.9	38.9	2.6	5.6	2,245	495
Roquefort.....	29.3	22.6	29.5	1.8	6.8	1,700	375
Swiss.....	31.4	27.6	24.9	1.3	4.8	2,010	443
Cream.....	74.0	2.5	18.5	4.5	0.5	910	201
Koumiss.....	89.3	2.8	2.1	5.4	.4	240	53
Milk, condensed, sweetened.....	26.9	8.8	8.3	54.1	1.9	1,520	335
Condensed, unsweetened, "evaporated cream".....	68.2	9.6	9.3	11.2	1.7	780	172

\*\*Determined by difference.

TABLE IV.—*Continued.*

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Fuel Value.	Calories per 100 Grams.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Calories per Pound.	
<b>J. DAIRY PRODUCTS, ETC., as purchased—Continued.</b>							
Milk, skinned	90.5	3.4	.3	5.1	.7	170	37
Whole	87.0	3.3	4.0	5.0	.7	325	72
Whey	93.0	1.0	.3	5.0	.7	125	28
<b>K. MISCELLANEOUS, as purchased.</b>							
Gelatin	13.6	91.4	.1	17.4	2.1	1,705	376
Calf's-foot jelly*	77.6	4.3	1.6	.....	.7	405	89
Isinglass, sturgeon*	19.0	89.3	1.6	.....	2.0	1,730	381
Lard, refined*	.....	.....	100.0	.....	.....	4,220	930
Tallow, refined*	.....	.....	100.0	.....	.....	4,220	930
Cottolene*	.....	.....	100.0	.....	.....	4,220	930
Oleomargarine	9.5	1.2	83.0	.....	6.3	3,525	777
Beef juice*	93.0	4.9	.6	.....	1.5	115	25
<b>VEGETABLE FOOD.</b>							
<b>A. FLOUR, MEALS, ETC.</b>							
Barley meal and flour	11.9	10.5	2.2	72.8	2.6	1,640	362
Pearled	11.5	8.5	1.1	77.8	1.1	1,650	364
Buckwheat flour	13.6	6.4	1.2	77.9	.9	1,620	357

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Fuel Value.	
						Per Cent.	Calories per Pound.
<b>A. FLOUR, MEALS, ETC.—Continued.</b>							
Corn meal, granular	12.5	9.2	1.9	75.4	1.0	1,655	365
Unbolted	11.6	8.4	4.7	74.0	1.3	1,730	381
Pop corn	4.3	10.7	5.0	78.7	1.3	1,875	413
Corn preparations:							
Cerealine	10.3	9.6	1.1	78.3	.7	1,680	370
Hominy	11.8	8.3	.6	79.0	.3	1,650	364
Cooked*	79.3	2.2	.2	17.8	.5	380	84
Parched	5.2	11.5	8.4	72.3	2.6	1,915	422
Oatmeal	7.3	16.1	7.2	67.5	1.9	1,860	410
Boiled*	84.5	2.8	.5	11.5	.7	285	63
Gruel	91.6	1.2	.4	6.3	.5	155	34
Water	96.0	.7	.1	2.9	.3	70	15
Rolled oats	7.7	16.7	7.3	66.2	2.1	1,850	408
Rice	12.3	8.0	.3	79.0	.4	1,630	359
Boiled	72.5	2.8	.1	24.4	.2	510	112
Flaked	9.5	7.9	.4	81.9	.3	1,685	371
Flour	8.5	8.6	6.1	68.0	.8	1,680	370
Rye flour	12.9	6.8	.9	78.7	.7	1,630	359
Meal*	11.4	13.6	2.0	71.5	1.5	1,165	367

\* One analysis.

TABLE IV.—Continued.

Food Materials.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Fuel Value.	Calories per 100 Grams.
							Per Cent.	
<b>A. FLOUR, MEALS, ETC.—Continued.</b>								
Wheat flour, California fine . . .	13.8	7.9	1.4	76.4	.5	1,625	358	
Entire wheat . . . . .	11.4	13.8	1.9	71.9	1.0	1,675	369	
Gluten . . . . .	12.0	14.2	1.8	71.1	.9	1,665	367	
Graham . . . . .	11.3	13.3	2.2	71.4	1.8	1,670	368	
Prepared (self-raisin <sup>g</sup> ) . . . . .	10.8	10.2	1.2	73.0	4.8	1,600	353	
Patent roller process, family and straight grade, all analyses . . . . .	12.8	10.8	1.1	74.8	.5	1,640	362	
Wheat Preparations:								
Cracked and crushed . . . . .	10.1	11.1	1.7	75.5	1.6	1,685	371	
Farina . . . . .	10.9	11.0	1.4	76.3	.4	1,685	371	
Flaked . . . . .	8.7	13.4	1.4	74.3	2.2	1,690	373	
Germs . . . . .	10.4	10.5	2.0	76.0	1.1	1,695	374	
Glutens . . . . .	8.9	13.6	1.7	74.6	1.2	1,715	378	
Macaroni . . . . .	10.3	13.4	1.9	74.1	1.3	1,665	367	
Cooked* . . . . .	78.4	3.0	1.5	15.8	1.3	415	91	
Noodles . . . . .	10.7	11.7	1.0	75.6	1.0	1,665	367	
Shredded . . . . .	8.1	10.5	1.4	77.9	2.1	1,700	375	
Spaghetti . . . . .	10.6	12.1	1.4	76.3	.6	1,660	366	
Vermicelli . . . . .	11.0	10.9	2.0	72.0	4.1	1,625	358	

\* One analysis.

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TABLE IV.—*Continued.*

Food Materials.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Calories per Pound.	Fuel Value.
								Calories per 100 Grams.
<b>B. BREAD, CRACKERS, PASTRY, ETC., as purchased.</b>								
Bread:								
Brown	43.6	5.4	1.8	47.1	2.1	1,050	231	
Corn (johnnycake)	38.9	7.9	4.7	46.3	2.2	1,025	266	
Rye	35.7	9.0	.6	53.2	1.5	1,180	260	
Wheat:								
Buns*	29.0	6.3	6.5	57.3	.9	1,455	321	
Cinnamon*	23.6	9.4	7.2	59.1	.7	1,575	347	
Currant*	27.5	6.7	7.6	57.6	.6	1,515	334	
Hot cross*	36.7	7.9	4.8	49.7	.9	1,275	281	
Sugar	29.6	8.1	6.9	54.2	1.2	1,450	320	
Gluten	38.2	9.3	1.4	49.8	1.3	1,160	256	
Graham	35.7	8.9	1.8	52.1	1.5	1,210	267	
Biscuit, home made	32.9	8.7	2.6	55.3	.5	1,300	287	
Soda*	22.9	9.3	13.7	52.6	1.5	1,730	381	
Rolls, French	32.0	8.5	2.5	55.7	1.3	1,300	287	
Vienna*	31.7	8.5	2.2	56.5	1.1	1,300	287	
All analyses	29.2	8.9	4.1	56.7	1.1	1,395	308	
Toasted	24.0	11.5	1.6	61.2	1.7	1,420	313	

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Calories per Pound.	Fuel Value.	Calories per 100 Grams.
								Per Cent.	
Bread—Continued.									
White, biscuit . . . . .	35.2	8.0	1.4	54.3	1.1	1.1	1,220	269	
White, home made . . . . .	35.0	9.1	1.6	53.3	1.0	1.0	1,225	270	
White, all analyses . . . . .	35.3	9.2	1.3	53.1	1.1	1.1	1,215	268	
Whole wheat . . . . .	38.4	9.7	.9	49.7	1.3	1.3	1,140	251	
Zwieback . . . . .	5.8	9.8	9.9	73.5	1.0	1.0	1,970	434	
Crackers:									
Boston (split) . . . . .	7.5	11.0	8.5	71.1	1.9	1.9	1,885	416	
Butter . . . . .	7.2	9.6	10.1	71.6	1.5	1.5	1,935	427	
Cream . . . . .	6.8	9.7	12.1	69.7	1.7	1.7	1,990	439	
Egg . . . . .	5.8	12.6	14.0	66.6	1.0	1.0	2,060	454	
Graham . . . . .	5.4	10.0	9.4	73.8	1.4	1.4	1,955	429	
Oatmeal . . . . .	6.3	11.8	11.1	69.0	1.8	1.8	1,970	434	
Oyster . . . . .	4.8	11.3	10.5	70.5	2.9	2.9	1,965	433	
Pilot . . . . .	8.7	11.1	5.0	74.2	1.0	1.0	1,800	397	
Pretzels . . . . .	9.6	9.7	3.9	72.8	4.0	4.0	1,700	375	
Saltines . . . . .	5.6	10.6	12.7	68.5	2.6	2.6	2,005	442	
Soda . . . . .	5.9	9.8	9.1	73.1	2.1	2.1	1,925	424	
Water . . . . .	6.4	11.7	5.0	75.7	1.2	1.2	1,835	405	
All analyses . . . . .	6.8	10.7	8.8	71.9	1.8	1.8	1,905	420	

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Fuel Value.
Cake:										
Baker's	31.4	6.3	4.6	56.9	.8					302
Chocolate layer*	20.5	6.2	8.1	64.1	1.1					364
Drop*	16.6	7.6	14.7	60.3	.8					316
Frosted	18.2	5.9	9.0	64.8	2.1					374
Fruit	17.3	5.9	10.9	64.1	1.8					388
Gingerbread	18.8	5.8	9.0	63.5	2.9					368
Sponge	15.3	6.3	10.7	65.9	1.8					396
All analyses, except fruit	19.9	6.3	9.0	63.3	1.5					369
Cookies, Cakes, etc.:										
Molasses cookies	6.2	7.2	8.7	75.7	2.2					421
Sugar cookies	8.3	7.0	10.2	73.2	1.3					423
All analyses	8.1	7.0	9.7	73.7	1.5					421
Ginger snaps	6.3	6.5	8.6	76.0	2.7					418
Lady fingers	15.0	8.8	5.0	70.6	.6					371
Macaroons	12.3	6.5	15.2	65.2	.8					435
Wafers, miscellaneous	6.6	8.7	8.6	74.5	1.6					421
All analyses	6.6	7.6	11.6	72.9	1.3					438
Doughnuts	18.3	6.7	21.0	53.1	.9					441

\* One analysis.

TABLE IV.—*Continued.*

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Fuel Value.	
						Calories per Pound.	Calories per 100 Grams.
<i>Pie:</i>							
Apple.....	42.5	3.1	9.8	42.8	1.8	1,270	280
Cream.....	32.0	4.4	11.4	51.2	1.0	1,515	334
Custard*.....	62.4	4.2	6.3	26.1	1.0	830	183
Lemon*.....	47.4	3.6	10.1	37.4	1.5	1,190	262
Mince.....	41.3	5.8	12.3	38.1	2.5	1,335	294
Squash*.....	64.2	4.4	8.4	21.7	1.3	840	185
<i>Puddings:</i>							
Indian meal*.....	60.7	5.5	4.8	27.5	1.5	815	180
Rice custard*.....	59.4	4.0	4.6	31.4	.6	825	182
Tapioca.....	64.5	3.3	3.2	28.2	.8	720	159
Tapioca, with apples*.....	70.1	.3	.1	29.3	.2	555	122
<i>C. SUGARS, STARCHES, ETC., as purchased.</i>							
Candy.....	18.2	.4	.....	96.0	.....	1,785	391
Honey.....	25.1	2.4	.....	81.2	.2	1,520	335
Molasses, cane.....	11.4	.4	.....	69.3	3.2	1,290	284
Starch, tapioca.....	.....	.....	1	88.0	.1	1,650	364
Sugar, coffee or brown.....	.....	.....	.....	95.0	.....	1,765	389
Granulated.....	.....	.....	.....	100.0	.....	1,860	410

\* One analysis.

TABLE IV.—Continued.

Food Materials.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Calories per Pound.	Fuel Value.
								Calories per 100 Grams.
<b>C. SUGAR, STARCH, ETC., AS PURCHASED—COR-TINUED.</b>								
Sugar, maple.....	.....	.....	.....	82.8 100.0 71.4	..... ..... .....	1.0 .7 .8	365 105 220	80 21 48
Powdered.....	.....	.....	.....	.....	.....	2.0	740	163
Stirup, maple.....	.....	.....	.....	.....	.....	3.5	1,605	354
.....	.....	.....	.....	.....	.....	4.1	1,625	358
<b>D. VEGETABLES.</b>								
Artichokes, as purchased.....	79.5	2.6	.2	16.7	1.0	1.7	576	127
Asparagus, fresh, as purchased.....	94.0	1.8	.2	3.3	.7	.9	95	21
Cooked, as purchased*.....	91.6	2.1	3.3	2.2	.8	.7	180	40
Beans, butter, green*.....	58.9	9.4	.6	29.1	2.0	1.6	145	41
Dried, as purchased.....	12.6	22.5	1.8	59.6	3.5	6.9	32	32
Lima, dried, as purchased.....	10.4	18.1	1.5	65.9	4.1	7.4	1.0	46
Lima, fresh.....	68.5	7.1	.7	22.0	1.7	1.6	210	31
String, cooked*.....	95.3	.8	1.1	1.9	.9	1.0	140	31
String, fresh, as purchased.....	83.0	2.1	.3	6.9	.7	1.0	145	31
Beets, cooked*.....	88.6	2.3	.1	7.4	1.6	1.0	210	46
Cabbage.....	91.5	1.6	.3	5.6	1.0	1.0	140	31
Carrots, fresh.....	88.2	1.1	.4	9.3	1.0	1.0	210	46
Cauliflower, as purchased.....	92.3	1.8	.5	4.7	.7	1.0	140	31

\* One analysis.

TABLE IV.—Continued.

Food Materials.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Calories per 100 Grams.	Fuel Value.
								Per Cent.
<b>D. VEGETABLES—Continued.</b>								
Celery	94.5	1.1	1.1	3.3	1.0	85	19	
Corn, green	75.4	3.1	1.1	19.7	.7	470	104	
Cucumbers	95.4	.8	.2	3.1	.5	80	18	
Eggplant*	92.9	1.2	.3	5.1	.5	130	29	
Greens, beet, cooked, as purchased*	89.5	2.2	3.4	3.2	1.7	245	54	
Dandelion, as purchased*	81.4	2.4	1.0	10.6	4.6	285	63	
Lentils, dried, as purchased	8.4	25.7	1.0	59.2	5.7	1,620	357	
Lettuce	94.7	1.2	.3	2.9	.9	90	20	
Mushrooms, as purchased	88.1	3.5	.4	6.8	1.2	210	46	
Okra	90.2	1.6	.2	7.4	.6	175	39	
Onions, fresh	87.6	1.6	.3	9.9	.6	225	49	
Cooked, prepared, as purchased*	91.2	1.2	1.8	4.9	.9	190	42	
Parsnips	83.0	1.6	.5	13.5	1.4	300	66	
Peas, dried, as purchased	9.5	24.6	1.0	62.0	2.9	1,655	365	
Green	74.6	7.0	.5	16.9	1.0	465	102	
Green, cooked, as purchased*	73.8	6.7	3.4	14.6	1.5	540	119	
Potatoes, raw or fresh	78.3	2.2	.1	18.4	1.0	385	85	
Cooked, boiled, as purchased	75.5	2.5	.1	20.9	1.0	440	97	
Cooked, chips, as purchased	2.2	6.8	39.8	46.7	4.5	2,675	589	

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Fuel Value.	Calories per 100 Grams.
							Per Cent.	
<b>D. VEGETABLES—Continued.</b>								
Potatoes, cooked, mashed and creamed, as purchased . . . . .	75.1	2.6	3.0	17.8	1.5	505	111	
Sweet, raw or fresh . . . . .	69.0	1.8	.7	27.4	1.1	570	126	
Sweet, cooked and prepared, as purchased* . . . . .	51.9	3.0	2.1	42.1	.9	925	204	
Pumpkins . . . . .	93.1	1.0	.1	5.2	.6	120	26	
Radishes . . . . .	91.8	1.3	.1	5.8	1.0	135	30	
Rhubarb . . . . .	94.4	.6	.7	3.6	.7	105	23	
Sauerkraut, as purchased . . . . .	88.8	1.7	.5	3.8	5.2	125	28	
Spinach, fresh, as purchased . . . . .	92.3	2.1	.3	3.2	2.1	110	24	
Cooked, as purchased* . . . . .	89.8	2.1	4.1	2.6	1.4	260	57	
Squash . . . . .	88.3	1.4	.5	9.0	.8	215	47	
Tomatoes, fresh, as purchased . . . . .	94.3	.9	.4	3.9	.5	105	23	
Turnips . . . . .	89.6	1.3	.2	8.1	.8	185	41	
<i>Canned</i> , as purchased.								
Asparagus . . . . .	94.4	1.5	.1	2.8	1.2	85	19	
Beans, baked . . . . .	68.9	6.9	2.5	19.6	2.1	600	132	
String . . . . .	93.7	1.1	.1	3.8	1.3	95	21	
Little, green* . . . . .	93.8	1.2	.1	3.4	1.5	90	20	

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Fuel Value.	Calories per 100 Grams.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Calories per Pound.	
<i>Canned, as purchased—Continued.</i>							
Beans, haricots verts	95.2	1.1	.1	2.5	1.1	70	15
Lima	79.5	4.0	.3	14.6	1.6	360	79
Red kidney*	72.7	7.0	.2	18.5	1.6	480	106
Brussels sprouts*	93.7	1.5	.1	3.4	1.3	95	21
Corn, green	76.1	2.8	1	19.0	.9	455	103
Okra	94.4	.7	.1	3.6	1.2	85	19
Peas, green	85.3	3.6	.2	9.8	1.1	255	56
Pumpkins	91.6	.8	.2	6.7	.7	150	33
Squash	87.6	.9	.5	10.5	.5	235	52
Succotash	75.9	3.6	1.0	18.6	.9	455	103
Tomatoes	94.0	1.2	.2	4.0	.6	105	23
<i>E. PICKLES, CONDIMENTS, ETC., as purchased.</i>							
Catsup, tomato	82.8	1.5	.2	12.3	3.2	265	58
Horse-radish	86.4	1.4	.2	10.5	1.5	230	51
Olives, green*	42.3	.8	20	8.5	1.2	1,025	226
Ripe*	52.4	1.4	21	3.5	2.7	975	215
Pickles, cucumber	19.0	92.9	.5	.3	2.7	70	15

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value. Calories per Pound.	Calories per 100 Grams.
E. PICKLES, CONDIMENTS, ETC., as purchased— Continued							
Pickles, mixed* .....	93.8	1.1	.4	4.0	.7	110	24
Spiced* .....	77.1	.4	.1	20.7	1.7	395	87
F. FRUITS, BERRIES, ETC.							
<i>Fresh.</i>							
Apples:							
Edible portion .....	84.6	.4	.5	14.2	.3	290	64
As purchased .....	63.3	.3	.3	10.8	.3	220	49
Apricots .....	85.0	1.1	.....	13.4	.5	270	59
Bananas, Yellow:							
Edible portion .....	75.3	1.3	.6	22.0	.8	460	101
As purchased .....	48.9	.8	.4	14.3	.6	300	66
Blackberries, as purchased .....	86.3	1.3	1.0	10.9	.5	270	15
Cherries, as purchased .....	76.8	.9	.8	15.9	.6	345	76
Cranberries, as purchased .....	88.9	.4	.6	9.9	.2	215	47
Currants, as purchased* .....	85.0	1.5	.....	12.8	.7	265	58
Figs, fresh, as purchased .....	79.1	1.5	.....	18.8	.6	380	84
Grapes, as purchased .....	58.0	1.0	1.2	14.4	.4	335	74
Refuse—25.0							
Refuse—35.0							

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value.	
						Calories per Pound.	Calories per 100 Grams.
<i>Fresh</i> —Continued.							
Huckleberries*	81.9	.6	.6	16.6	.3	345	76
Lemons:							
Edible portion	89.3	1.0	.7	8.5	.5	205	45
As purchased	62.5	.7	.5	5.9	.4	145	32
Muskmelons:							
Edible portion*	89.5	.6	.....	9.3	.6	185	41
As purchased*	44.8	.3	.....	4.6	.3	90	20
Nectarines*	82.9	.6	.....	15.9	.6	305	67
Oranges:							
Edible portion	86.9	.8	.2	11.6	.5	240	53
As purchased	63.4	.6	.1	8.5	.4	170	37
Peaches:							
Edible portion	89.4	.7	.1	9.4	.4	190	42
As purchased	73.3	.5	.1	7.7	.3	155	34
Pears:							
Edible portion	84.4	.6	.5	14.1	.4	295	65
As purchased	76.0	.5	.4	12.7	.4	260	57
Persimmons*	66.1	.8	.7	31.5	.9	630	139

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value.	
						Calories per Pound.	Calories per 100 Grams.
<i>Fresh</i> —Continued.							
Pineapple* . . . . .	89.3	.4	.3	9.7	.3	200	44
Plums:							
Edible portion . . . . .	78.4	1.0	...	20.1	.5	395	87
As purchased . . . . .	74.5	.9	...	19.1	.5	370	81
Pomegranates . . . . .	76.8	1.5	1.6	19.5	.6	460	101
Prunes . . . . .	79.6	.9	...	18.9	.6	370	81
Raspberries, red, as purchased* . . . . .	85.8	1.0	...	12.6	.6	255	56
Raspberries, black . . . . .	84.1	1.7	1.0	12.6	.6	310	68
Raspberry juice* . . . . .	49.3	.5	...	49.9	.3	935	206
Strawberries . . . . .	90.4	1.0	.6	7.4	.6	180	40
Watermelons:							
Edible portion . . . . .	92.4	.4	.2	6.7	.3	140	31
As purchased . . . . .	37.5	.2	.1	2.7	.1	60	13
<i>Dried</i> .							
Apples, as purchased . . . . .	28.1	1.6	2.2	66.1	2.0	1,350	298
Apricots, as purchased . . . . .	29.4	4.7	1.0	62.5	2.4	1,290	284
Citron, as purchased . . . . .	19.0	.5	1.5	78.1	.9	1,525	236
Currants, Zante, as purchased . . . . .	17.2	2.4	1.7	74.2	4.5	1,495	330
Dates . . . . .	15.4	2.1	2.8	78.4	1.3	1,615	356

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value. Calories per Pound.	Calories per 100 Grams.
<i>Dried</i> —Continued.							
Figs, as purchased.....	18.8	4.3	.3	74.2	2.4	1,475	325
Pears, as purchased*.....	16.5	2.8	5.4	72.9	2.4	1,635	360
Prunes.....	22.3	2.1	...	73.3	2.3	1,400	309
Raisins.....	14.6	2.6	3.3	76.1	3.4	1,605	354
Raspberries, as purchased*.....	8.1	7.3	1.8	80.2	2.6	1,705	377
<i>Canned; and Jellies, Preserves, etc., as purchased.</i>							
Apples, crab*.....	42.4	.3	2.4	54.4	.5	1,120	247
Apple sauce*.....	61.1	.2	.8	37.2	.7	730	161
Apricots*.....	81.4	.9	...	17.3	.4	340	75
Apricot sauce*.....	45.2	1.9	1.3	48.8	2.8	1,000	220
Blackberries*.....	40.0	.8	2.1	56.4	.7	1,150	254
Blueberries.....	85.6	.6	.6	12.8	.4	275	61
Cherries*.....	77.2	1.1	.1	21.1	.5	415	91
Cherry jelly*.....	21.0	1.1	...	77.2	.7	1,455	321
Figs, stewed.....	56.5	1.2	...	40.9	1.1	785	173
Marmalade (orange peel)*.....	14.5	.6	.1	84.5	.3	1,585	349
Peaches.....	88.1	.7	.1	10.8	.3	220	49
Pears.....	81.1	.3	.3	18.0	.3	355	78

\* One analysis.

## FOOD VALUES

TABLE IV.—Continued.

Food MATERIALS.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.	Per Cent.	Fuel Value.	
							Calories per Pound.	Calories per 100 Grams.
<i>Canned; and Jellies, Preserves, etc., as purchased—Continued.</i>								
Pineapples*	61.8	.4	.7	36.4	.7	.7	715	158
Prune sauce*	76.6	.5	.1	22.3	.5	.5	430	95
Strawberries, stewed*	74.8	.7	...	24.0	.5	.5	460	101
Tomato preserves*	40.9	.7	.1	57.6	.7	.7	1,090	230
<i>G. Nuts.</i>								
Almonds	4.8	21.0	54.9	17.3	2.0	3.030	668	
Beechnuts*	4.0	21.9	57.4	13.2	3.5	3.075	678	
“Biotes” (acorns), ( <i>Quercus emoryi</i> )*	4.1	8.1	37.4	48.0	2.4	2,620	578	
Brazil nuts ( <i>Bertholletia excelsa</i> )*	5.3	17.0	66.8	7.0	3.9	3,265	720	
Butternuts ( <i>Juglans cinerea</i> )*	4.4	27.9	61.2	3.5	2.9	3,165	698	
Chestnuts:								
Edible portion	45.0	6.2	5.4	42.1	1.3	1,125	246	
As purchased	37.8	5.2	4.5	35.4	1.1	945	208	
Cocoanuts*	14.1	5.7	50.6	27.9	1.7	2,760	608	
Cocoanut without milk, as purchased								
Refuse—37.3	8.9	3.6	31.7	17.5	1.0	1,730	381	
Milk, as purchased*	92.7	.4	1.5	4.6	.8	1,155	34	

\* One analysis.

TABLE IV.—Continued.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value. Calories per Pound.	Calories per 100 Grams.
<b>G. NUTS—Continued.</b>							
Cocoanut, prepared, as purchased . . . . .	3.5	6.3	57.4	31.5	1.3	3,125	689
Filberts* . . . . .	3.7	15.6	65.3	13.0	2.4	3,290	725
Hickory nuts* . . . . .	3.7	15.4	67.4	11.4	2.1	3,345	737
Lichi nuts* . . . . .	17.9	2.9	.2	77.5	1.5	1,505	332
Peanuts:							
Edible portion . . . . .	9.2	25.8	38.6	24.4	2.0	2,560	564
As purchased . . . . . Refuse—24.5	6.9	19.5	29.1	18.5	1.5	1,935	427
Peanut butter, as purchased . . . . .	2.1	29.3	46.5	17.1	5.0	2,825	623
Pecans, polished* . . . . .	3.0	11.0	71.2	13.3	1.5	3,455	762
Unpolished* . . . . .	2.7	9.6	70.5	15.3	1.9	3,435	757
Pistachios, first quality, shelled* . . . . .	4.2	22.3	54.0	16.3	3.2	2,995	660
Walnuts, California* . . . . .	2.5	18.4	64.4	13.0	1.7	3,300	728
<b>H. MISCELLANEOUS, as purchased.</b>							
Chocolate . . . . .	5.9	12.9	48.7	30.3	2.2	2,860	631
Cocoa . . . . .	4.6	21.6	28.9	37.7	7.2	2,320	511
Cereal coffee infusion (1 part boiled in 20 parts water) . . . . .	98.2	.2	... . . . .	1.4	.2	30	7
Yeast, compressed* . . . . .	65.1	11.7	.4	21.0	1.8	62.5	138

\* One analysis.

TABLE IV.—Continued.

Food Materials.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Calories per Pound.	Fuel Value.						
							Calories per 100 Grams.						
<b>UNCLASSIFIED FOOD MATERIALS.</b>													
<b>A. SOUPS, HOME MADE, as purchased.</b>													
Beef	92.9	4.4	.4	1.1	1.2	120	26						
Bean*	84.3	3.2	1.4	9.4	1.7	295	65						
Chicken*	84.3	10.5	.8	2.4	2.0	275	61						
Clam chowder	88.7	1.8	.8	6.7	2.0	195	43						
Meat stew	84.5	4.6	4.3	5.5	1.1	370	81						
<i>Canned</i> , as purchased.													
Asparagus, cream of*	87.4	2.5	3.2	5.5	1.4	285	63						
Bouillon	96.6	2.2	.1	.2	.9	50	11						
Celery, cream of*	88.6	2.1	2.8	5.0	1.5	250	55						
Chicken gumbo	89.2	3.8	.9	4.7	1.4	195	43						
Chicken	93.8	3.6	.1	1.5	1.0	100	22						
Consommé*	96.0	2.5	.4	1.1	5.5	12	12						
Corn, cream of*	86.8	2.5	1.9	7.8	1.0	270	59						
Julienne*	95.9	2.7	.9	.5	.9	60	13						
Mock turtle	89.8	5.2	.9	2.8	1.3	185	41						
Mulligatawny	89.3	3.7	.1	5.7	1.2	180	40						

\* One analysis.

TABLE IV.—Concluded.

Food MATERIALS.	Water. Per Cent.	Protein. Per Cent.	Fat. Per Cent.	Carbo- hydrates. Per Cent.	Ash. Per Cent.	Fuel Value. Calories per Pound.	Calories per 100 Grams.
<i>Canned, as purchased—Continued.</i>							
Oxtail	88.8	4.0	1.3	4.3	1.6	210	46
Pea	86.9	3.6	.7	7.6	1.2	235	52
Pea, cream of green*	87.7	2.6	2.7	5.7	1.3	270	60
Tomato	90.0	1.8	1.1	5.6	1.5	185	41
Turtle, green*	86.6	6.1	1.9	3.9	1.5	265	58
Vegetable*	95.7	2.9	.....	5.5	.9	65	14
<i>B. MISCELLANEOUS, as purchased.</i>							
Hash*	80.3	6.0	1.9	9.4	2.4	365	80
Mincemeat, commercial	27.7	6.7	1.4	60.2	4.0	1,305	288
Home made	54.4	4.8	6.7	32.1	2.0	970	214
Salad, ham*	69.4	15.4	7.6	5.6	2.0	710	157
Sandwich, egg*	41.4	9.6	12.7	34.5	1.8	1,355	299
Chicken*	48.5	12.3	5.4	32.1	1.7	1,055	232

\* One analysis.



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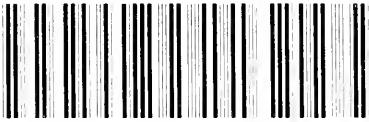


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